A Lecture
ON
THIRTY YEARS' WAR AGAINST LUNACY.

Delivered before the Post-Graduate Medical Association on Feb. 12th, 1902,

BY T. CLAYE SHAW, B.A., M.D., F.R.C.P. LOND.,

LECTURER ON PSYCHOLOGICAL MEDICINE AT ST. BARTHOLOMEW'S HOSPITAL; LATE MEDICAL SUPERINTENDENT OF THE LONDON COUNTY ASYLUM, BANSTEAD.

GENTLEMEN,—With your permission I propose to devote this lecture which you have honoured me by coming to hear to a consideration of the changes and progress in the treatment of lunacy during the last 30 years, the period of my active participation in its various manifestations as seen in public institutions.

The two most important events during the time were, I think, the passing of the Metropolitan Asylums Act, 1870 (known as "Gathorne Hardy's Act"), and the transference of the administration of asylums in the year 1889 from the jurisdiction of the magistrates to that of the county councils. As my experience relates solely to asylums in connexion with the metropolis and its districts my remarks will be made chiefly with regard to them.

There is no doubt that prior to 1870 the London asylums, of which there were two—viz., Hanwell and Colney Hatch—were far behind most of the asylums in the north of England and in Scotland, as well in architectural arrangement and administration as in decoration and sanitary conditions. The non-restraint treatment had been fully recognised—and, indeed, at Hanwell, under the auspices of Dr. Connolly, it had acquired its most conspicuous development, though, of course, he only professed to put into large practice the principles and treatment of Pinel which were first introduced into this country by Mr. Gardiner Hill. At the time that I am speaking of (the late "sixties") there existed a dual superintendence of the asylums, an imperfect recognition of the advisability of vesting the responsibility of the administration of the asylum in the medical superintendent, and a very inadequate conception of the importance of having a large and efficient medical staff. The accommodation itself was notoriously inadequate to the requirements of the metropolis and in the workhouses scores of persons of unsound mind were kept in conditions quite unsuitable for them. The medical staff was ridiculously small. For the care of 2000 patients there were two medical superintendents and two assistant medical officers, one on each side. Anything like systematic treatment of patients was impossible and case-taking was only a name. There were no laboratories for scientific work and the teaching of the subject was not recognised in the schools. The Lunacy Commissioners, however, were very active in their repeated demands for more accommodation and for alterations to bring the asylums in line with the places where the comfort, at any rate, of the patients was studied with success. It was about this time that Dr. Maudsley's book on "Mind" was published and it marks an epoch in the history of the literature of insanity in this country. I say that it marked a great advance because it introduced to the notice of the specialty the psychological side of the clinical work that was in a certain estimation and it materially helped to correlate the two. The study of psychophysics, although in course of investigation in Germany, had scarcely penetrated to this country and the whole subject was approached merely from the side of the exposition of symptoms without radical efforts being made to bring to bear the study of morbid anatomy and other kindred methods. Of course we must not forget that at this time little was known of bacteriology and the methods of staining tissues were, indeed, only just being brought to notice in the general medical schools. The irksomeness of an assistant medical officer's life at times was almost unbearable, for going out was often impossible, and I have known men confined within the walls of the asylum for as long as six weeks at a time in the absence of the chief. As to the nursing staff the less that is said of it the better. Not that there were not numbers of very intelligent men and women in care of the patients (and there were probably more stability and permanence in the staff of attendants than there is now) but the hospital system had not been in any way introduced and, indeed, the use of the thermometer was in its infancy as regards its application to lunacy. Instruction was in no way given to the nursing staff and whilst the pay was poor the hours on duty were long and the accommodation for amusement and for rest was of the barest description. At this time, too, a deal of power was invested in the lay authorities of the asylum and, as might be expected, this led to a certain amount of conflict as to infringement of territorial rights between the strictly professional and the lay element. The patients, however, were kindly treated and in justice I must add that the attendants, from having so much necessarily left in their hands owing to the impossibility of complete medical supervision, became very expert in their acquired interpretation of symptoms and in their personal management of the patients. One source of danger, owing to the insufficiency of medical supervision, was that stock bottles of medicines were often kept in the wards and these stock mixtures included sedatives such as digitalis and tartar emetic. I do not say that these sedative mixtures were ever surreptitiously given to the patients by the attendants but there was always present the possibility of it. Post-mortem examinations were sometimes made, sometimes not. There was no understood necessity for making an examination in every case where possible and this must have led to many inaccuracies in the table of causes of death as well as to the want to the patients during life of that security from rough treatment which is only engendered in some attendants by the knowledge that an injury inflicted during life may lead to consequences which will surely be brought home after death.

However incomplete and unsatisfactory from our present point of view the then management of asylums was, I wish to state that in its way a great deal of work was done. Everyone from the committee downward did his best according to his lights, but it was not until the idea grew and finally became established that asylums should be treated as hospitals, and that therefore the medical element was the essence of the system and that the lay element should be subordinated to it, that a wider reaching view of the subject was possible. The old system of treating lunatics was so mechanical in kind and was so crudely based that it took time to bring home to people the notion that insanity was a disease to be studied on the same lines as disease in general and if it took some time to convince the profession of this we may easily see that some difficulty was experienced in convincing the lay governing bodies of this truth and in getting them to recognise the expediency of looking at everything connected with the administration of an asylum from a medical point of view. It was the publication of the views of Dr. J. Hughlings Jackson in the Croonian Lectures and elsewhere that probably more than any other work led to the true view of how insanity should be regarded; and I beg to take this opportunity of emphasising the great regard that all students of mental disease have for this eminent physician. The theory that insanity is a dissolution and that it must be interpreted according to the laws postulated by Dr. Jackson was the means of letting in more light upon the disease than can be conceived by those who have been from the first taught to take that view of it.

It must now be stated that there is a common opinion to-day that, however bad things were at the time I am speaking of (more than 30 years ago), we have not made any material progress in the successful curative treatment of insanity—that, in fact, no more people are now discharged cured from asylums than formerly. I am inclined to think that there is a great deal of truth in this. It must be remembered that although we know more of the nature and conditions of insanity than we did 25 or 30 years ago we are still in the dark about a great deal and we are still behind other countries in the amount of medical care allotted to this form of disease. The general principles of treatment were the necessity of feeding the patient and the value of rest and of occupation with open-air exercise. The medical treatment consisted in the rather extensive use of sedatives to control excitement. And what is the treatment nowadays? Very similar to what it was then, except that in some asylums there is perhaps more opposition to the control of symptoms by sedatives than there was, whilst in others the introduction of subcutaneous injections of powerful new alkaloids is very frequently resorted to.

Upon the question as to when a patient is fit for discharge a good deal depends upon the personal equation of the physician and upon some other circumstances that are not quite under his control, such as the wishes of the friends to take the patient out, &c. In America the percentage of cures to admissions is not so great as it is in this country because they are much more particular over there before they allow anyone to leave as "cured." They also have fewer readmitted as "relapsed" cases. In consequence of the great difference that holds in men's minds as to when a patient should be discharged as "cured" I do not think it advisable to quote statistics and I may for the present dismiss this portion of the subject with the remark that in most particulars asylum statistics are unreliable and therefore useless. If, however, the percentage of discharges was about the same as now, showing that there has been no great advance in direct curative treatment, there is little doubt that the percentage of "accidents" was greater and I think that the patients were noisier and more difficult to manage. This I attribute partly to the fact (which I do not attempt to explain) that we had at that time more violent and maniacal cases than we seem to get now, but especially to the fact that the patients were allowed beer (of which some of them managed to obtain a considerable quantity) and that stimulants were generally given to a much larger extent than they now are. Not only have the patients benefited by the curtailment of stimulants but I think that by stopping the use of stimulants by the attendants these are able to treat the patients with more endurance and less irritability. It has often struck me that the amount of apoplexy among asylum patients is very small considering the vast amount of arterial degeneration that one finds, and this I attribute to the low vascular tension from regulated diet, absence of stimulants, and long hours in the recumbent position at night. The proportion per cent. of deaths was larger than it is nowadays and this can be attributed partly to the numbers allotted for treatment to one medical man, making it quite impossible to give more than a cursory daily examination even to the acute cases, but chiefly to the great improvements that have been introduced in the general hygienic conditions of the existing buildings, such as improvement of ventilation, warming of single rooms and dormitories, better laundry arrangements, &c. Patients with phthisis were allowed to intermingle freely with others, but syphilis was well recognised as a cause, though perhaps not to the full extent that it now is, and the curability of myxœdematous insanity by thyroid extracts was quite unknown. Though restraint was to some extent practised by means of sleeve jackets I do not think that there was a large or unnecessary amount of it, and seclusion—i.e., the forcible isolation of patients in single rooms—was probably about as common as it is at the present time, though the instructions of the Lunacy Commissioners about it were rather more stringent than they now are.

I pass now to the consideration of the changes brought about by the passing of Gathorne Hardy's Act in 1870 by which the Metropolitan Asylums Board was constituted, a body to which among other things was entrusted the care of "imbecile" patients. Under their auspices two asylums were built at Leavesden and Caterham and afterwards a third at Darenth, and these institutions were nominally intended to hold, and care for, imbecile or feeble-minded people and the quiet senile dements who were detained in the workhouses. It was largely through the advocacy of the late Mr. Ernest Hart that these changes came about. Now I say that these new buildings were "intended" for the imbecile and feeble-minded from the workhouses, but what was the fact? I know because I superintended the opening of the Leavesden Asylum. It is quite true that scores of patients were received from the workhouses, but many were transferred from the county asylums. As the workhouses were emptied of patients the accommodation there was done away with and so a great stress was laid upon the county asylums to take in the cases for which there was now no room in the workhouses and this led to the erection of another asylum for 2000 patients by the Middlesex magistrates. Note this curious fact, that the patients in the Metropolitan Asylums Board asylums were admitted under a special form of certificate (as, indeed, they are now) very different in its text and exactions from the regular lunacy certificates and that all the patients who were transferred from the asylums lost thereby the special form of protection of the Lunacy Acts under which they were admitted to the asylums and came again to be considered as inmates of a workhouse, for these metropolitan asylums are virtually workhouses within the meaning of the Act. Though nominally built for "imbeciles" there were, in truth, very few real imbeciles in them; most of the patients were the offscourings of the chronic wards of the asylums and at times these were very troublesome and noisy, quite unsuitable to the primitive and simple type of construction of these large buildings, with their large wards meant to hold 180 patients each and a limited amount of infirmary accommodation, with little provision in the way of single rooms for noisy or troublesome persons or (as often occurred) for patients who had recurrent attacks of a maniacal or suicidal nature. At first children were mixed with adult patients in the wards, but this evil was counteracted by the building of the Darenth asylum and removing the idiot and imbecile children there from the older metropolitan asylums and from the county asylums.

Owing to the removal of so many patients from the county asylums the vacancies were filled up by the patients left in the workhouses and by the transfer from the private asylums of many strictly county patients who had been boarded-out in them because there was no room for them in the county asylums proper. It was soon found that many of these transfers from the private asylums had recovered and they were accordingly discharged soon after their admission into the county asylums.[1] It is to be noted that the change from the rigorous lunacy certificates of the county asylums to the simpler certificates of the imbecile asylums did the patients no harm at all and this seems to show that for many of the patients who are now in the county asylums the present form of certificate is needlessly strong. There is no doubt that scores of the patients who are now in the county asylums might be placed in the metropolitan asylums if room existed for them, but then the difficulty remains that the accommodation in the existing county asylums would not be able to absorb all the acute cases in the workhouses and many in the outlying county asylums who are boarded-out because there is not at present room of the proper kind for them in the existing asylums which can accommodate only a certain amount of disease of the acute or turbulent variety. As it is, only the quietest and most elementary forms of lunacy can be received and treated in the metropolitan asylums because of the large wards and the small amount of hospital accommodation, whilst the number of attendants employed is too small to deal with any but the most inexacting and harmless cases. Naturally the number of "cures" in these asylums is very small; there should not, indeed, be any cures, but it would appear that occasionally a curable case slips in by accident or someone is transferred whose symptoms have not been properly reckoned with. It would appear that these large workhouse asylums have reached their limit, for there does not appear to be any inclination to extend them. What they have demonstrated, however, is that a certain class of building can be cheaply erected and maintained in which a large number of patients can be treated, or rather cared for, with success, and that persons who were formerly under very strict legal *régime* can be dealt with quite easily and safely under less elaborate legal safeguards.

At these asylums (Leavesden and Caterham) the experiment was first tried of having one medical superintendent only in care of the whole institution and the result was in all ways successful; it was more economical and it lessened friction, at the same time the working of the two sides was better in the interests of everybody. That the work was arduous and trying will be seen when I say that to look after 2000 patients there were myself and one assistant. I took one side in the morning and he took the other, changing over in the evening. There was no dispenser or clerk for the ordinary clerical work and we had to look after the case-books and conduct the correspondence. I have personally, and alone, admitted as many as 80 patients in one day. Under such conditions medical treatment could not be much more than a name.

About this time (1870) I succeeded Dr. (afterwards Sir Richard) Thorne at St. Bartholomew's Hospital in giving a voluntary course of lectures on insanity. The attendances were small, sometimes 12, sometimes five or six, but a year or two afterwards more interest was aroused and the attendance rose to 20—all voluntary students.

[1] This accounts for the large list of discharges from some of the asylums in their early years.

The subject of insanity was then not recognised in the examinations though the University of London insisted on a knowledge of psychology for the M.D. degree—the actual title being the "senses, the intellect, and the will, including the theory of moral obligation." Later the colleges recognised the advisability of including questions relating to insanity in the papers and the University of London changed the heading of the subject to "Mental Physiology, especially in Relation to Mental Diseases," and besides pure psychology there was instituted a separate paper on insanity. In addition to the lectures clinical instruction was given at the Leavesden Asylum. The example (begun, I believe, at St. Bartholomew's Hospital) was gradually followed at the other schools and there is not now any medical school without its teacher in insanity. The course of lectures was by no means a favourite one at first and only when it was made compulsory was a good attendance secured. The subject was so new, questions of psychology were so out of the groove of reading of the medical student, that there is no wonder that a little gentle compulsion had to be used to get men to take up the subject. Even now the full teaching of psychology and insanity is only partial; it is done at three hospitals—viz., St. Bartholomew's, Guy's, and University College. At the last hospital the teaching is probably the most ideal, for there are a separate psychologist and an independent lecturer on insanity, whilst there is yet a third lecturer there on the important subject of psychophysics. It is rather an anomaly that the teacher of insanity should have to teach psychology—it is like making the lecturer on physiology give the course on medicine, but no doubt the combination of an arts department with the medical department at University College is the cause of the special professor there. We have recently begun the special and separate teaching of psycho-physics at St. Bartholomew's Hospital but time is still required for its full development.

We now come to the third division of the subject, the conduct of the asylums under the county councils, which dates from the year 1890. They (the county councils) took an eminently practical view of the subject. They saw at once the necessity of placing one man in charge of the ship and of establishing his position as the responsible head, whilst of course retaining the ultimate refereeship in their own hands. This measure at once silenced any question of that internal conflict of authority which was so disastrous not only to the inner harmony of the establishments but to their smooth working. At the present moment the medical superintendent is the responsible authority for good or for ill, in pleasant times or in those phases of anxiety to which all people who have to do with an uncertain body like the insane are liable. And by putting the question of a divided superintendentship out of the pale of doubt they consolidated the unity of authority in a way that showed that if lunacy was to be conducted upon scientific, it was also to be done upon business, lines. They then set to work to bring the various asylums in harmony with the most advanced views of the treatment of insanity. They authorised the expenditure of what money was required for improving the light, for ventilation, for warming, and for the comfortable decoration of the wards. They introduced the system of centralisation of administration by which each asylum came to be compared with the others and to some extent *regulated* in its conduct by its compeers. This system has its merits and also has, perhaps, some disadvantages. It stands on the theory that the conditions of each element of the system are the same, whereas in reality the conditions are rather special in each—e.g., the class of accommodation is by no means the same in one as in another, and so the distribution of acute and chronic cases is of necessity not the same; hence it would not be fair to compare the cost of maintenance in one with what is found adequate in another, and this applies also to the *results*, as given by the statistics, of the various institutions. For a much-subdivided building with small wards more supervision is required and the expense of the staff at one place may be greater than at another merely because of the structural arrangements of the place, but by allowing a certain amount of margin and play in definite directions, necessitated by the special conditions of each unit of the system, and by joining these units into a whole for financial reasons, they are able to present a balance-sheet which is satisfactory to all the individual members; what is in excess in one is counterbalanced by shortage in the other. I am not aware that the example of the London County Council has been followed in this respect by other large counties such as Lancashire and Yorkshire, but as the system is still young and is scarcely even yet thoroughly elaborated it may be said to be still on its trial. No doubt if found to be ultimately successful it will be copied by those intrusted with the administration of large interests. The important question of nursing or attendance then occupied the attention of the council and striking ameliorations appeared, of benefit both to the attendants and to the patients. The pay was increased and the number of weekly hours of work was lessened, whilst the leave of absence from duty, both weekly and yearly, was materially increased. Of course, all these changes meant additional expense, and of late the cost of maintaining asylums has materially increased. This is as it should be. It was always a wonder that asylums could be effectively kept up and properly administered for 8*s.* or 9*s.* per head per week and we can only conclude, *cæteris paribus*, that they were imperfectly administered at the lower rates. The treatment of lunacy is an expensive thing and it must continue to augment in expense. The public (i.e., the press) is not satisfied even now that all is being done that should be done for the treatment of insanity and it will not grudge money spent in the investigation of this still obscure disease. After putting its house in order the London County Council proceeded to consider the question of the provision of accommodation for the numbers of new cases in the workhouses and for the housing in their own asylums of the large numbers resident, at great expense, in the outlying county asylums. The question of the proper cost of accommodation to be built was one requiring much care and in this particular steps were taken to regulate the home experience by that of other countries. As a result the erection of temporary structures was begun and the results have been satisfactory. It has been shown that it is possible to erect in a short time and at a cheap rate structures in which the treatment of acute and chronic cases can be carried on with good results. Naturally, these structures, being temporary, can only be accepted as palliative of the congested conditions that exist, but they suffice until more definite ideas can be launched as to what is the best way of treating the insanity of a place like London.

We must remember that the word "London" means a very different thing from what it did shortly before the London County Council came into existence. "London" now means a county which includes tracts of Surrey and Middlesex which formerly had separate asylums of their own, hence the obligations of the Lunacy Board for the County of London have widened by leaps and bounds. Again, London itself is changing very rapidly in its domiciliary conditions and the transfer of habitations to the suburban and country districts is bound to have an effect which it is at present difficult to forecast upon the numbers of the insane who will in the future have to be treated in the London asylums proper. It is not too much to say that the *idea* upon which asylums should be built and carried on has of recent years found its correct exploitation—viz., that they should be strictly medical in object and carried on in the medical spirit. And so the medical staff has been largely increased, the asylums thrown open for clinical teaching, and encouragement given for the pursuance of medical research by the equipment of laboratories, whilst individual work among the profusion of material that exists for it is encouraged. A most noteworthy departure was made by the London County Council in the appointment of a special pathologist who should utilise the material at disposal among the thousands of patients in the asylums and who, equipped with a special laboratory fitted with all modern appliances and methods, should work in the most untrammelled scientific direction upon the great problems of pathology and morbid anatomy that are still before us. How well Dr. Mott has risen to the exigencies of his appointment is known to all of us. Other counties have followed the example and even Scotland has in this respect taken a lesson from London.

If it is asked what has been the result of all this change we must reply that to some degree it is already evident in the more comfortable and general sanitary conditions of the patients but that as regard the effects on statistics of cures and deaths we must wait. Great developments are slow often in operation, but we can go on with more confidence when we feel that we are working in the right direction and that we are moving in this way there is no doubt. It is to the young men that we must look for advancement; they have the time and the opportunity for work, though it must be

confessed that the distractions of asylum life and the somewhat isolated conditions as regards being in immediate touch with scientific surroundings are rather antagonistic to good work. Certainly the superintendents have little time to devote to scientific work, for the numerous calls of the administrative and clerical duties and the necessity of keeping an active look-out over the medical wants and the safety of the patients leave little time for undertaking work that is not strictly concerned with the management of the place.

The latest proposal for dealing with the housing of the insane is the formation of "reception houses" where patients can be detained until it is seen whether it is necessary to send them into an asylum (and, if so, to what kind of asylum) or whether they can be discharged without having to be put away at all. This very excellent proposition of the London County Council has been brought about by the fact that many people now are sent to the asylums who are practically convalescent and have to be discharged at once and partly because cases unfit for the elaborate installations of the asylums have to be admitted and then, being found unsuitable, have to be removed elsewhere at considerable cost and inconvenience. But before these "reception-houses" can be built the Lunacy Act must be altered, and there is reason to think that that will be done as soon as a Bill can be passed. Neither the villa system (so much vaunted in America and Germany) nor the conglomerate system seems nowadays to be the most useful form of building—both have advantages and disadvantages—but the trend seems to be in the erection of hospital blocks (like those at the Wakefield Asylum and at the Lancashire Asylum at Whittingham) where, with all elaborate and modern improvements for treatment and nursing, the acute cases can be placed, leaving the chronics to the larger and less specialised wards. Let it, however, be remembered that many of these "chronics" are the most troublesome of all classes of the insane; they may be incurable, but they are exceedingly troublesome and dangerous and they may tax the energy and resources of the staff in a way that "acute" cases rarely do. Specialisation seems to be now the watchword in providing accommodation and the London County Council has already made arrangements for the home and separate treatment of epileptics and will probably soon provide for the isolation of patients with phthisis, a complication very common in the insane.

I should like to see in London a lunatic hospital for, say, 200 acute cases, equipped with laboratories and all the most recent scientific apparatus, with a complete visiting staff of neurologists and specialists in all important departments. There should be an operating surgeon, a gynæcologist, an electrician, a pathologist, and a dental surgeon, and clinical lectures on insanity and cognate subjects should be given periodically by the staff. There is little doubt that these clinics would be well attended by practitioners and students, and the treatment of the insane would then be at last on a true scientific basis. Such an institution under the control of a public body like the London County Council would have the confidence of the public, and this would be a necessary element, for the cost and maintenance would be exceedingly high, and I think that it ought also to include provision for the treatment of private patients whose friends would doubtless appreciate the opportunities thus offered for specialised treatment. To be sure, there is the difficulty of procuring a site, for the building would have to be in a central part of London, easily accessible to the staff, but this difficulty is not insuperable.

And now I should like to hazard a speculation upon the future treatment of insanity—viz., the introduction of surgery. Some years ago I advocated the employment of surgical methods in general paralysis of the insane. The principle was based upon the relief of pressure which undoubtedly exists. In some of the cases which I reported the symptoms were considerably relieved and I am sure that life was prolonged and carried on under easier conditions. The operations are tedious, though not dangerous, and I hope to see them continued. In Scotland Sir J. Batty Tuke also adopted surgical methods in general paralysis and his results were encouraging. The want of a special operating surgeon in asylums is perhaps the cause why surgery is not more commonly resorted to. When we consider how inaccessible the brain is and look at our present modes of treatment it is little wonder that so many acute cases run into dementia.

Take the case of delusional insanity. It is very probable that often the local lesion is in one of the sense centres from which radiate influences that affect other parts of the brain. The important thing is, if possible, to locate the part of the brain which is primarily affected and then to discuss the probability of relief by operating directly over that region. Surely, a delusion or hallucination is a local sign of the irregular functioning of a certain part of the brain and it is, I contend, within the legitimate methods of treatment to explore that region with the view of relieving local conditions. But how do we act at present? Quite empirically. Of course, we feed the patient and then we prescribe "rest" or "change" and we combat the troublesome symptoms of restlessness or insomnia by sedatives of one sort or another, ringing the changes upon them until we arrive at the one which seems most adapted to the symptoms. And it seems difficult to say what more can be done by this treatment of symptoms than we are doing, but let us not forget that our predecessors did as much and that there is no evidence that we are much more successful than they were. Surely, if a case resists ordinary treatment and threatens to become chronic, with the superficial lesions that we know exist there can be no reason for not resorting to surgical means which will, at any rate, reveal the actual condition of the brain and point to the advisability of extended treatment in this direction. I believe that just as there are forms of Jacksonian epilepsy which are relieved by operation so there are forms of insanity due to central local disturbances which may also be benefited in the same way. I beg very humbly to put forward this suggestion for the consideration of those who have large opportunities of observation.

I have already referred to the curious fact that numbers of patients have been taken from the protection of the Lunacy Acts and have done very well under less stringent certificates. There is at present a strong tendency to keep as much as possible—sometimes to a dangerous degree—patients who are undoubtedly insane altogether outside the jurisdiction of these Acts. I refer to the cases chiefly of private patients who are placed either in homes or in the homes of private medical men without any certificate at all. This practice appears to be on the increase and the cause seems primarily to be the wish of the friends to avoid the fact that the patient has ever been in a lunatic asylum or a hospital. Partly, also, it is due to the somewhat stringent conditions of the lunacy certificates which render the placing a patient in an asylum a somewhat tedious and complicated process, and partly to the reluctance of medical men to sign certificates because of the liability to subsequent trouble and penalties. If the patients who are thus privately housed can be well taken care of and safely conducted to a cure there is much to be said in favour of this modern tendency, but the risks of treatment in this way are certainly great and it is pretty sure that the community is not benefited by it. Among the public to have been "insane" means to have been at some time or other in an asylum, and however insane the patient may really have been if she or he has been treated privately and has recovered the actual facts will be concealed and the patient will be said to have had a little temporary delirium or something of that sort of no particular consequence. The truth of what really has occurred will be concealed in future marriage or business relations and a deception set up the results of which are not unlikely to be disastrous, whilst they certainly invalidate the accuracy of statistics.

Actual insanity is often veiled under the term "neurasthenia," and it is, I know, far from infrequent for people who are in depressed or excited states to be placed in what are called "homes of rest" where they are isolated from the external world and are not allowed to communicate with their families or to know what is going on outside the walls of the "home"—are, in fact, more restrained than they would be in any hospital or asylum, and that, too, without any system of inspection or authority to which appeal can be made. This is a present-century evolution of the way of treating insanity, especially in the best-to-do classes. I do not know what can be said against it as long as the patients in these conditions are under careful medical supervision, as long as it is proved that they have a better chance of recovery and actually do recover more quickly than if they were placed under certificates, but it cannot be denied that such practice is sailing dangerously near the wind and that when "accidents" such as suicide or some public scandal occur the people concerned are more likely to get into trouble than if they had at the first faced the matter in its strict medical and legal bearings.

Another mode of treatment that is now in vogue is by

hypnotism. Personally I have not much faith in hypnotism in actual insanity because of the difficulty there is in controlling the patient's attention, but I can quite understand that in proper hands it may be of the greatest use in early cases of obsession or insomnia where the symptoms if neglected would run into an actual insane state, or in cases where the presence of hysteria is doubtful. There seem to be people who are endowed with, or who have acquired, special powers of producing this condition, and though we do not yet know the exact nature of the hypnotic state there is little doubt that the production of it may induce rest and so prevent waste of tissue at a time when excessive katabolism is dangerous to mental equilibrium. Of course, we recognise that the person hypnotised really gives himself away and is not in any way affected by the will of the operator.

No department of medicine is in a greater transition state than is the whole question of insanity and what the developments will be during the next few years it is difficult to forecast. If we can hope for more direct accessibility to the brain we shall have made a great advance. That we shall ever know more perfectly than we do now the essential nature of mind and how it comes that a certain condition of action of brain tissue means (I do not say *causes*) the display of what we call consciousness is problematical, but we have still enough to occupy us in the investigation of the physiological, clinical, and anatomical truths which are at present merely theories as far as our explanations go.

I have already had to refer in not very satisfactory terms to the question of statistics in asylum reports. Some of the tables usually appended are good, others are of no value, and some even are misleading. With the great stress now laid on the importance of holding necropsies upon every patient who dies in an asylum it is possible to correct the diagnosis made during life by the facts ascertained post mortem, and if care is taken not to sign the medical certificate of death before the necropsy has been made we have a system for registration which may be pronounced as accurate as it is possible to make it, so that the death tables may be taken to be satisfactory and more useful probably than any other accounts of mortality, except perhaps those from the prisons. But as to the cures or recoveries the results given merely show that in the opinion of a certain medical man authorised by two of the committee such and such a person may be discharged. There is so great pressure on the accommodation and so much interference by the friends who exhibit great anxiety to take the patients away on the first remission of symptoms, and there is also so much legal difficulty in keeping a patient in during the convalescent stage, especially when the time for re-certification comes round, that it is to be feared that many are prematurely discharged. If we read the number of relapses that occur in those who are discharged and the short time that many remain out of the asylum before they have to be re-certified we can but conclude that the discharges were premature, and if so what becomes of the published statistics and how can we compare the results of to-day with those of former times? The tables of "Recoveries" have to be received indeed with great suspicion and with them of course disappears, as regards reliability, the allied tables of "Length of residence of those discharged cured" because very often the people were not cured when they were discharged.

Another useless table is that giving the form of disease in those admitted and discharged, because this is merely a table of *symptoms* and if the same patients were under review the week after they would probably fall under an altogether different nomenclature. Again, the table giving the form of insanity among those remaining in the asylums as so many of "mania," so many of "melancholia," so many of "delusional insanity," &c., is really only correct for the particular day on which it is made; the next day the conditions may be quite different. If it were possible to have a sound pathological or etiological classification there would be a real gain in the statistics, but as at present reports are presented in which so many cases of mania or so many of melancholia are admitted, it may be truly said that they are not, as regards practical value, worth the paper they are written upon.

I know the difficulties that exist, how rarely the friends will give, or can give, a true history of the attack and of the cause of it. I have already spoken of the treatment in "homes" or at home of numbers of insane persons, and if, as is the case, these persons never come within the jurisdiction of registration, of what beyond a nominal value is the real value of statistics as to the percentage of insanity in the general population? The proportion of the *registered* cases of insanity to the general population is of course accurate, but the table of causes is a very misleading one and is most inaccurate.

The table of the proportion of suicidal and homicidal cases is merely a hypothetical and visionary one. It is taken chiefly from reports which are often unverified, often misinterpreted, and it has no practical value whatever. So little are asylum statistics valued by the men who have practically to deal with the subject that few trouble themselves to read those parts of the reports in which they are given. Their compilation is in many respects perfunctory; they should be revised and most of them should be abolished.

On the question of heredity I hold that there is much confusion. It by no means follows that because a person is insane enough to be placed in a lunatic asylum therefore his children are of necessity tainted with insanity: so much depends on the nature of the attack and on the age of the children at the time when the ancestral neurosis was established. That hereditary tendency to insanity does exist cannot be doubted, but that it does not do so to the extent generally believed is, I think, much nearer the truth.

Finally, I would insist upon the close connexion between the study of neurology and insanity. At the present moment these allied states are almost divorced. Most asylums are replete with good instances of "neurology," such as the various forms of sclerosis, of hysteria, of trophic muscular lesions, of forms of aphasia, &c., in addition to the mental impairment, but it is to be regretted that most of the former pass unnoticed. And conversely many neurologists find themselves in the presence of symptoms of insanity the practical knowledge of which they are little acquainted with. I hope that before long each hospital will have a good clinique of psychiatry and nervous diseases and that the combination will be more critically and scientifically studied than it is now. Much is to be hoped from the development of the hospital system of treating acute and early cases which will come into force when the contemplated system of reception-houses is accomplished, but all depends upon the liberal spirit with which the proposed changes are carried out, and much money has to be spent and much more energy to be developed before material progress in the treatment of lunacy in this country is assured.

An Address
ON
ACUTE PLEURISY WITH EFFUSION.

Delivered before the Middlesbrough and District Medical Society on Nov. 27th, 1901,

BY GEORGE R. MURRAY, M.A., M.D. CAMB., F.R.C.P. LOND.,

HEATH PROFESSOR OF COMPARATIVE PATHOLOGY IN DURHAM UNIVERSITY; PHYSICIAN TO THE ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

GENTLEMEN,—Formerly attacks of acute pleurisy with effusion were attributed to the action of cold; but the more our knowledge of the subject increases the more evident it becomes that cold in the great majority of cases can only be considered a predisposing factor, just as it is in the case of pneumonia, and evidence is steadily accumulating which shows that a large number of cases are the result of primary or secondary infection of the pleura by a microbe. We must not, however, rush to the other extreme and conclude that all cases are due to infection, for the following observations appear to indicate that cold may alone cause pleurisy in some cases. Dieulafoy[1] quotes an observation made by Lemarre at Saint-Germain. A high wall which was situated midway between the forage-store and the barracks was lowered to the height of one metre. The soldiers who had to carry bundles of hay or straw from the store to the barracks at once began to rest, while hot and perspiring, on this wall. While thus resting the right side

[1] La Semaine Médicale, Nov. 20th, 1901.

of a soldier, though sheltered in other directions, was exposed to the north-east wind which was often very cold. An epidemic of right-sided pleurisy broke out among these men, all of whom recovered, some after aspiration and others without. They were forbidden to rest at this point and no more cases occurred. The regiment changed every six months and on the arrival of the next one the men again made use of the wall as a resting-place with the result that pleurisy again appeared, only to cease when they were forbidden to rest there. This experience was repeated several times with the same result. In all 50 cases of pleurisy occurred; fortunately, all recovered. It is difficult to avoid the conclusion that these cases were due to the cold wind blowing on the right side while the skin was perspiring.

The comparative pathology of pleurisy shows that in animals it may be due to cold. Outbreaks of pleurisy have been recorded in recently clipped horses which have been kept in the open all night. Duvieusart observed 100 cases of pleurisy, 60 of which were fatal, in a flock of 400 sheep which had just been shorn during a very cold February. None of these animals were tuberculous and the fluid effusion injected into guinea-pigs never produced tuberculosis.

I shall now consider the evidence which indicates the frequency of the infective origin of pleurisy with effusion in man. In any given acute case of pleurisy with effusion it is by no means easy to determine the exact nature of the infection. During the last few years, however, evidence has been steadily accumulating which shows that the great majority of cases are either tuberculous or rheumatic in origin or are due to the pneumococcus. The most important of these is certainly acute tuberculous pleurisy and by this term I do not mean a pleurisy occurring in a subject who is manifestly tuberculous already, but an acute primary attack in an apparently healthy subject. We have now abundant evidence that many of these cases are due to infection by the tubercle bacillus. The most conclusive evidence is afforded by the presence of the tubercle bacillus in the effusion. This is not easy to demonstrate, as the bacilli in the effusion are scanty and in some cases may be altogether absent from the specimen examined. Microscopical examination of the fluid is therefore of little use. Thus Ehrlich found the bacillus by microscopical examination in only two out of nine and Levy in not one out of 13 clearly tuberculous cases. Cultures may be prepared from the fluid but the results are often negative in undoubtedly tuberculous cases. Lemoine made cultures from 38 cases of pleurisy with effusion; in 28 of these the tubes remained sterile and yet 15 of these 28 cases ultimately turned out to be tuberculous. As other bacteria generally develop in cultures prepared from non-tuberculous cases the absence of growth in a tube inoculated from an acute effusion is regarded by many as strong presumptive evidence in favour of its tuberculous origin. Recently, Bezançon and Griffon have employed a new medium consisting of nutrient agar to which are added glycerine and rabbit's blood, spread on the bottom of an Erlenmeyer's flask. It is necessary to employ several flasks in each case and the colonies only appear after three or four weeks in the warm incubator at 37° C. Positive results are said to be obtained more frequently by this method.

The most trustworthy method of determining the presence of the tubercle bacillus is by inoculating a guinea-pig with the fluid obtained by aspiration. If the animal develops tuberculosis it is clear that the patient suffers from pleural tuberculosis. Netter[2] made inoculations with exudation from three different classes of cases. In 16 cases known to be tuberculous eight positive results were obtained. In 25 cases attributed to cold tuberculosis developed in the inoculated animals in 10 cases (40 per cent.). In 14 cases in which the pleurisy was evidently due to some other cause all the inoculations were negative. Le Damany[3] inoculated guinea-pigs with the exudation from 55 cases of pleurisy. In 47 cases (85 per cent) the animals developed tuberculosis; in eight the results were negative, though four of these were inoculated from cases which gave clinical evidence of tuberculosis. It has been shown by Eichhorst[4] that it is necessary to take a large quantity of a serous effusion for inoculation experiments or else the results are not reliable. This is no doubt due to the fact already mentioned, that even in undoubtedly tuberculous pleurisy the tubercle bacilli may be sparsely scattered in the fluid. This observer found that when 15 cubic centimetres of fluid were used for inoculation more than 62 per cent. of the animals became tuberculous and only 10 per cent. if only one cubic centimetre was used. It was shown by Debove in 1891 that serous effusions often contain tuberculin which we know is a product of the growth of the tubercle bacillus. Still further evidence is afforded by the result of injections of tuberculin for diagnostic purposes. Thus, in the German Government report on the efficiency of tuberculin it is stated that 15 cases of pleurisy were tested with tuberculin and both a general and a local reaction followed in 13 (87 per cent.) of them.

There is further strong clinical evidence of the tuberculous origin of pleurisy with effusion. The previous history of a case, as a rule, helps but little but the after-history is often most instructive. It is well known that a patient who has had pleurisy with effusion not infrequently develops tuberculosis, generally of the lung, later. Several series of cases have been published which show this relationship clearly. For example, Dr. A. G. Barrs[5] in 1890 ascertained that 21 out of 57 cases of pleurisy with effusion treated at the Leeds Infirmary during the years 1880–84 had died from tuberculosis. Hodges found that in 130 cases of primary pleurisy which were traced for seven years 40 per cent. became tuberculous. Fiedler found that of 92 cases of pleurisy with effusion 28 died in two years from phthisis, 43 had either definite tuberculous disease of the lungs or signs suggestive of it, and only 21 appeared to be healthy. Whitney[6] by adding together several published series of cases obtained a total of 310 cases of pleurisy, 178 (57 per cent.) of which subsequently developed tuberculosis.

Post-mortem evidence also points to the same conclusion, for Kelsh and Vaillard[7] examined 16 fatal cases of pleurisy in the majority of which the effusion was serous. The subjects were in good health before the attack which had generally been attributed to cold and died during apparent convalescence. In every case miliary tubercles were found on the pleura. Dieulafoy[8] relates several similar cases of acute primary pleurisy with effusion in which the patients died suddenly during the attack and in which tuberculosis of the lung or pleura was found at the necropsy. If we take all these facts into consideration I think we may fairly conclude that fully one-half of all cases of pleurisy with effusion are due to infection of the pleura by the tubercle bacillus. This is an important conclusion and has a direct bearing on prognosis and treatment.

Another microbe which causes pleurisy with effusion is the pneumococcus. More commonly infection of the pleura with this microbe results in a purulent effusion, as when lobar pneumonia is followed by an empyema. Still, in some cases a serous effusion may occur with, or follow, a croupous pneumonia; thus, Prudden found the pneumococcus twice in six such cases which he examined. We may, however, have a pleurisy with effusion caused by the pneumococcus without any pneumonia at all. The following case is a good illustration of this.

The patient was a single woman, aged 33 years, who was being treated in the Newcastle Infirmary by Dr. G. T. Beatson's method for inoperable recurrent carcinoma of the right breast, when she had an acute attack of pleurisy with effusion. The breast had been removed by Mr. J. R. Morison on Nov. 6th, 1900. Recurrence took place 12 weeks after leaving the hospital, when she was readmitted. It was decided to adopt Dr. Beatson's treatment by removal of the ovaries and giving thyroid extract. Mr. Morison removed both ovaries on March 6th, 1901. On the 16th she was transferred to my care for the second part of the treatment. I may mention incidentally, though it does not concern us further here, that the treatment had a remarkable effect upon the recurrent nodules of growth, which rapidly diminished in size and almost disappeared. Some six weeks later, however, they returned and have since grown larger than ever. During the 14 days which followed the operation the temperature was only above 100° F. on two evenings—100·2° on the 8th and 101·4° on the 20th. On March 25th the temperature rose to 100° in the evening and the next evening to 103·4°. Two days later she complained of severe pain on the right side of the chest, which came on suddenly and was increased by deep inspiration. Two days after this the apex beat was displaced outwards to the left.

[2] Recherches Expérimentales sur la Nature des Pleurésies séro-fibrineuses, Société Médicale des Hôpitaux de Paris, April 17th, 1891.
[3] La Semaine Médicale, 1897, p. 427.
[4] Quoted by Osler, Text-book of Medicine, p. 667.
[5] Brit. Med. Jour., 1890, vol. i., p. 1069.
[6] Twentieth Century Practice of Medicine, vol. vii., p. 11.
[7] Quoted by Dr. J. K. Fowler in "Diseases of the Lung."
[8] Loc. cit.

nipple line and there were absence of vocal fremitus, dulness on percussion, and absence of breath sounds over the lower part of the right side of the chest up to the fifth rib in the right nipple line in front and to the angle of the scapula behind. On April 1st the apex beat was in the fourth left intercostal space just outside the nipple line and the dulness extended up to the fourth rib in the right nipple line. No further increase in the physical signs took place. An exploratory puncture was made and a syringeful of clear serous fluid was withdrawn, from which cultures were made on agar-agar. After incubation a pure culture of numerous colonies was obtained of a diplococcus identical in appearance with the pneumococcus. The temperature was not normal until April 12th. The physical signs gradually diminished but on the last examination (on May 10th) the apex beat was internal to the left nipple line, the vocal fremitus was still slightly less at the right base than at the left, and there was dulness at the right base for three finger-breadths. The breath sounds were audible down to the right base but were less loud than on the left. Here we have a good example of an acute attack of pleurisy with effusion with 18 days' fever running a favourable course in which the effusion was absorbed without the aid of aspiration.

It has been shown by Dr. J. W. Washbourn[9] that the constitutional symptoms of primary infection of the pleura by the pneumococcus may be just the same as those of lobar pneumonia, for which they are apt to be mistaken. Thus, in one of his cases there were herpes, high temperature, delirium, cough, and rapid breathing, yet at the post-mortem examination the lung was found to be unaffected while the right pleural cavity contained 54 ounces of pus in which the pneumococcus was found. The occurrence of acute primary empyema with such symptoms indicates the importance of exploratory punctures of the chest in cases in which the physical signs are not conclusive.

Other bacteria which have been found in serous pleural effusions are the typhoid bacillus, the streptococcus pyogenes, and the staphylococcus pyogenes, though when the two latter organisms are present the effusion is usually, but not always, purulent.

In empyemata bacteria are commonly present. In old empyemata, however, bacteria may die and the pus become sterile. I remember a child (who was admitted to University College Hospital under the care of Dr. S. Ringer when I was house physician there) with a very large empyema of long duration in which tubes inoculated from the pus at the time of the operation and incubated remained quite sterile. I have once found tubercle bacilli in pus discharged from an empyema which had been opened and drained some time previously. This was in a patient (whom I saw with Dr. H. S. Baumgartner) who was suffering from tuberculous disease of the lung on the same side and whose sputum also contained tubercle bacilli. In another case of empyema I found the staphylococcus pyogenes albus and in others the diplococcus. In addition to these three micro-organisms the streptococcus pyogenes has frequently been found and the typhoid bacillus and bacillus coli communis have been found occasionally.

Mr. Bilton Pollard[10] has recently pointed out that the course of an empyema varies according to the micro-organism present and that a bacteriological examination of the pus is a useful aid to prognosis. He found that pneumococcal empyema runs the most favourable course. This variety occurs most frequently in children in whom empyemata are generally benign. Staphylococcal empyemata begin more insidiously and run a less acute course, while streptococcal empyemata develop rapidly, run an acute course, and are accompanied by severe toxic symptoms. Mr. Pollard considers that any pleural effusion, even if only slightly turbid, which contains streptococci, should be regarded as an empyema and treated as such.

In the case of serous effusions it is also important to ascertain the exact cause. We will now consider how this is to be done. The actual symptoms and physical signs will not give the required information. In some cases a careful inquiry into the past history may show that there has been, perhaps, an obstinate bronchitis, a slight hæmoptysis, a fistula in ano which was cured by an operation, enlargement of the cervical glands in childhood, or possibly disease of the hip-joint. The actual attack may have been preceded by vague ill-health, some loss of strength, and decrease in weight. Any of these would indicate that the pleurisy was in all probability tuberculous. Cultures prepared from the fluid drawn off in a sterilised syringe will show if the effusion is caused by the pneumococcus, the streptococcus pyogenes, or the staphylococcus aureus. The tubercle bacillus takes long to grow, so that absence of growth at the end of 48 hours is in favour of tuberculosis. Culture tests are, however, difficult to carry out in private practice. Inoculation tests require a special licence. The fluid removed from the chest has been found to cause agglutination of a culture of tubercle bacilli, but the test is much more difficult to carry out than Widal's test for enteric fever and as yet has not been sufficiently simplified for regular use. Courmont obtained a positive reaction in 23 out of 31 cases in which he used the fluid from the pleura and in 18 out of 22 in which he employed the blood for the test. The tuberculin test might also be employed, but it has not as yet come into general use and might give unreliable results as long as the temperature was high in acute cases.

A still more recent method which was introduced by Widal and Ravaut and described lately by Dieulafoy,[11] which deserves extended trial, is by the microscopical examination of the deposit obtained by centrifugalising some of the fluid withdrawn by an exploring syringe. A drop of the sediment is spread on a cover-slip and stained with thionin or other suitable stain and examined under the microscope. It has been found that pleural effusion may contain red blood corpuscles, leucocytes with multipartite nucleus, large mononuclear cells, lymphocytes and endothelial cells, and it has been found that different cells preponderate in different types of effusions. Thus in passive effusions large endothelial cells are found almost exclusively or greatly in excess of any red blood corpuscles or leucocytes which may be present. In pleurisy caused by the pneumococcus or streptococcus large polynuclear and mononuclear cells preponderate. In the acute pleurisies which we have seen every reason to regard as tuberculous the cells are almost entirely lymphocytes with some red blood corpuscles. I have had as yet no personal experience of this method but mention it as a simple one which, if reliable, may be of great service. If by one or other of these methods we arrive at an exact diagnosis we shall in the case of a tuberculous pleurisy expect the effusion to be absorbed, though probably paracentesis may be required once or oftener, and we shall frame a prognosis and after-treatment, bearing in mind the danger of tuberculosis of the lung at a later stage. If the effusion is due to the pneumococcus the prognosis is favourable and the duration of the attack will probably be from one to three weeks. The fluid may be entirely absorbed or if paracentesis is required it will be only once. If the streptococcus is found the attack will probably be acute and severe. The fluid, serous at first, soon becomes turbid and often purulent later. The duration of the attack may be long, extending to several months. The fluid soon accumulates again after aspiration, so that incision and drainage are usually required as for empyema.

Of the symptoms of an attack of pleurisy with effusion little need be said, as we have already described some of them in detailing the case of diplococcus pleurisy. The acute onset, with repeated chills, rather than a rigor, and the sharp stabbing pain in the side are characteristic. I think it is probable, however, that a rise of temperature may occur even before these symptoms. The relief of the pain when the serous exudation takes place and separates the two layers of the pleura is also a common feature. The physical signs have been so often described that they do not require further consideration here. I would emphasise one point, however, and that is the presence of typical bronchial breathing instead of the usual absence of breath sounds over a pleural effusion in some cases. This was well illustrated by a case of Hodgkin's disease in a woman (whom I saw with Dr. W. Murray and Mr. F. Page) who had enlarged lymphatic glands in the posterior mediastinum which caused a left hydrothorax. In this case, which I aspirated on several occasions, there was always typical bronchial breathing when the effusion was large. It disappeared each time after tapping, only to return as the pleural cavity refilled. This is more frequent in children than adults but is a common cause of error.

It not infrequently is necessary to make an exploratory puncture, either to ascertain if fluid is present in the pleura in cases in which the signs are doubtful or to determine the

[9] Transactions of the Royal Medical and Chirurgical Society, vol. lxxvii.

[10] Clinical Journal, Feb. 27th, 1901, p. 293.

[11] Loc. cit.

nature of the fluid itself. I do not by any means advocate the indiscriminate use of an exploring syringe in all cases, but there is no doubt that in a large number of cases valuable information is obtained by its use and on the whole it is used less frequently than it should be. The ordinary hypodermic syringe which is sometimes employed for making an exploratory puncture is unsuitable owing to its small capacity, as it holds only about 20 minims, and the very small bore of the hollow needle attached to it. The ordinary exploring syringe which holds one drachm is quite small enough for the purpose. On the whole, the simple pattern made just like a hypodermic syringe, but at least three times as large, is the most convenient. The hollow needle should be not less than three inches long and should have an internal diameter of not less than one-sixteenth of an inch. It is necessary to see that the needle is strong and has no flaw in it. Such a needle as this, when fixed on to the syringe held in the hand, ought to be able to bear a lateral strain of one pound in any direction near the point. This is easily tested, either by a one-pound weight or by a spring balance. The syringes which are supplied for the injection of antitoxic serum should never be used to explore the chest, as I have known the needle to snap off short. The needle must always be sterilised just before use. This may be done in several ways. It has been shown by Professor A. E. Wright of Netley that hot oil may be used in the following manner. Some olive oil is heated over a flame until a temperature is reached at which a crumb of dry white bread turns brown when dropped into it. If the syringe and needle are then washed out three times with the oil they will be thoroughly sterilised, however septic they may have been before.

Practically, I find the following method is reliable. The needle is put into a test-tube and enough cold water is added to cover it. This is then heated over a spirit lamp till it boils and is kept boiling gently for one minute. The tube is then inverted over a dish containing 1 in 40 carbolic lotion, so that the needle falls directly into this and is kept sterile till it is wanted. The syringe should be washed out two or three times with the carbolic lotion. If cultures are to be made from the fluid both syringe and needle should be boiled in a pan. I have tested the results of boiling in this way with a laboratory culture of the staphylococcus pyogenes aureus as follows. A broth culture of this micrococcus two days old was taken, which was turbid with the growth, and on microscopical examination was found to contain plenty of cocci. Some of the broth was drawn through a cannula which was also immersed in the culture, so that the micrococci were brought in contact with all parts of it. The cannula was then put into a tube of cold water and boiled one minute. It was then transferred to a tube of sterile broth for a short time, after which the tube was placed in the hot incubator. This tube of broth remained sterile. Three loopfuls of the water in which the cannula had been boiled were rubbed on the surface of an agar tube which was incubated but no growth took place. As a control the same experiment was repeated *without* boiling the water in the tube, the result being that an abundant growth appeared in the broth tube in which the cannula had been dipped and many colonies of the staphylococcus pyogenes aureus appeared on the surface of the agar tube inoculated from the tube of water.

The disinfection of the skin is also important. It should be well washed with soap and water and then scrubbed with cotton-wool soaked in 1 in 20 carbolic lotion. This I find to be sufficient and this conclusion is supported by the following tests. In the case of diplococcus pleurisy already described, before the skin was cleaned for the puncture a sterilised platinum loop was rubbed over it at the site selected and then over the surface of an agar tube. The skin was then washed and scrubbed with the carbolic lotion and the platinum rubbed over it as before, and a second agar tube was inoculated in the same manner. Both tubes were incubated and by the following day 213 colonies of staphylococcus pyogenes aureus and albus had developed in the tube inoculated from the skin before cleaning and none at all in the other one. It may be said that the absence of growth was due to some of the carbolic lotion being transferred to the tube by the platinum wire and inhibiting the growth of any organism. That this was not the case, however, was proved by inoculating the tube with the micrococcus growing in the first tube, after which it grew abundantly in the second tube also. If a puncture had been made in this case without antiseptic precautions there would have been a considerable risk of carrying some of the pyogenic cocci from the surface of the skin with the needle into the pleural effusion and thus of converting a serous effusion into an empyema. In another case of a man who had aortic disease and left hydrothorax I took cultures in the same manner, with the exception that the carbolic lotion was washed off with cotton-wool and hot water, both of which had previously been boiled. In this case 13 colonies developed in the tube inoculated from the skin before disinfection and none in that done afterwards.

In selecting the point at which to make a puncture we must be guided by the physical signs, but in the majority of cases with signs of fluid at the lower part of the pleura the eighth or ninth intercostal space in the line of the angle of the scapula is the most convenient position, with the patient sitting up in bed. If it is necessary to explore with the patient lying down the mid-axillary line in the sixth or seventh intercostal space will be more convenient. The skin should always be frozen with the ethyl-chloride spray, as patients have often assured me that without it a puncture may be very painful and with it they scarcely feel it at all.

In making an exploratory puncture the needle should be just pushed through the parietal pleura at first and the handle of the syringe withdrawn about one-third of its length. If no fluid appears in the syringe push the needle in another third, withdraw the handle another third, and if still there is no fluid push it in as far as it will go and draw out the plunger to the full limit. If, instead of doing this, the needle is pushed right in at first it may pass through and beyond a layer of fluid and miss it altogether. The following case is a good illustration of this.

A man, aged 29 years, was admitted under my care at the Newcastle Royal Infirmary on Feb. 1st, 1897. Six weeks previously he received a sharp blow on the left side of the chest and had pain for several days, which then subsided. Three days before admission he was seized with severe pain in the left side of the chest and difficulty in breathing. On admission no definite physical signs were present. On the 10th there were loss of vocal fremitus, dulness on percussion, and loss of breath sounds below the level of the angle of the left scapula behind. The heart's apex beat was midway between the nipple line and the sternum. The following day the dull area was explored with a needle but no fluid was obtained. The dulness increased upwards to the middle of the scapula and the patient became cyanosed. The chest was again explored on the 12th and some clear serous fluid was obtained and the natural conclusion drawn was that there was a serous pleural effusion and not an empyema, as had been suspected. Three days later, however, he expectorated 14 ounces of foul pus which was found to contain an enormous number of micro-organisms, streptococci and pneumococci among them. Two days later the chest was again explored just below the angle of the left scapula and pus was withdrawn. The pleura was opened and drained but the patient died the following day. At the necropsy, in addition to the empyema which had partly discharged through the lung, the posterior part of the pericardium was found distended with five or six ounces of clear serous fluid, so that there was only about one inch of compressed lung between it and the chest-wall, the two layers of pleura at that point being separated by only a thin layer of pus. Thus in exploring the chest the needle had evidently passed right through the empyema into the distended pericardium, from which the serous fluid had been withdrawn through the empyema. If in this case the needle had been thrust just through the chest-wall at first the pus would have been tapped and the mistake avoided.

If no fluid appears in the barrel of the syringe the needle should be withdrawn and the contents of the needle itself driven out on to a glass slide. It should be noted if any smell can be detected and the fluid thus obtained should be examined under the microscope. In some cases of empyema the pus may be viscid and will not flow through the needle. In such cases the microscopical examination of the contents of the needle will often reveal its presence. In making the puncture it is important to note the resistance offered to the entrance of the needle and also to move it about somewhat so as to ascertain if the end is free in a cavity filled with fluid or has penetrated a solid. In this way the presence of a thickened pleura or a fibroid lung may sometimes be ascertained.

In all cases of acute pleurisy rest in bed is necessary. At the onset treatment is directed to the relief of the acute pain. For this purpose hot applications, linseed or linseed

and mustard poultices, and belladonna fomentations are useful. Dr. F. T. Roberts's plan of strapping the affected side so as to limit the respiratory movements gives great relief in many cases. The application of a few leeches to the side, though now seldom employed, is certainly useful. If the pain is very severe a hypodermic injection of morphia gives prompt relief. As soon as exudation takes place the inflamed pleural surfaces are separated and the pain disappears. As soon as this occurs it is important to give a saline aperient, sulphate of magnesium or sodium in two or three drachm doses each morning, so as to ensure the passage of two or three liquid motions. 20 grains of sodium salicylate three times a day are often useful in early effusions; and it has been shown by Rosenbach and Pohl that in cases treated with this drug it is found to be present in the pleural effusion, whether it be active or passive in origin. At the end of a week or ten days, when the more acute part of the attack is over, iodine is of service in aiding the absorption of the effusion by the lymphatics. We can give tincture of iodine in five-minim doses, iodide of potassium in from five- to ten-grain doses, or iodoform in half- or one-grain doses. At the same time it is advisable to rub a drachm of 10 per cent. oleate of mercury into the affected side each day. Hay's method of treatment, in which the patient is restricted to half a pint of liquid in the 24 hours, while from half an ounce to one and a half ounces of Epsom salts in a concentrated form are given each morning an hour before breakfast, is highly recommended by Osler.

In many cases of pleurisy with effusion the question arises as to whether the fluid should be removed or not. Under certain conditions this has to be done without delay. In all cases of large pleural effusion at any stage in which there is dulness all over one side of the back of the chest, and dulness up to the clavicle in front, aspiration should be carried out at once; it should never really be deferred so long, as it is better to remove some of the fluid as soon as dulness extends above the level of the fourth rib in the nipple line in front. In these large effusions delay is dangerous, as sudden death sometimes occurs. The physical signs, however, do not always indicate the amount of fluid which is present, so that in cases in which the area of dulness is less than that just indicated immediate aspiration is required if there are marked dyspnœa on slight exertion, cyanosis, palpitation, irregularity of the pulse, or signs of œdema of the opposite lung. In cases in which the effusion is moderate in amount and produces no urgent symptoms there is no necessity to remove it during the first week or 10 days. A moderate effusion is probably useful in the early stages of an acute attack of pleurisy, as it separates the two layers of the pleura, allows the lung to retract, and lessens the respiratory movements. As a result of this the inflamed serous membrane is kept at rest as much as possible. The two surfaces are prevented from rubbing against each other and the pleura is placed under conditions which are favourable to recovery.

If aspiration is carried out at this early stage we are simply removing these favourable conditions, nor do we attain our end as the fluid is apt to reaccumulate. If at the end of a week or 10 days there is no diminution in the effusion recovery will be hastened by aspiration; if, on the other hand, absorption has already commenced it is not required. For removal of fluid from the pleural cavity Potain's aspirator is by far the most useful instrument. In urgent cases, where the aspirator is not at hand, it may sometimes be necessary to use a simple trocar and cannula with an indiarubber tube, but this is unsatisfactory.

All I have already said with regard to the exploring needle applies equally to the cannula. This should have a diameter of from one-sixteenth to one-tenth of an inch and should be sterilised along with the trocar and stopcock, boiling in a pan of water for at least a minute, and then transferring to 1 in 40 carbolic lotion until required. If a test tube is used for boiling the trocar should be passed through the stopcock before boiling and the cannula affixed afterwards. The hands should be washed in soap and water and then in 1 in 20 carbolic lotion. If the patient is able to sit up the puncture should be made in the eighth or ninth intercostal space below the angle of the scapula. If the patient is feeble or is liable to faint he should lie with his shoulders raised by a pillow and the puncture should be made in the sixth or seventh intercostal space in the mid-axillary line. The skin should be cleaned and frozen just as for an exploratory puncture. Just before the puncture is made the bottle attached to the aspirator should be partly exhausted by about half-a-dozen draws with the air-pump. As soon as the trocar has penetrated the pleura it should be withdrawn and the fluid flows through the cannula into the bottle. Aspiration is best carried out slowly, so as soon as the flow into the bottle ceases it is best to keep on drawing just sufficient air out of the bottle and to keep up a steady flow so that 10 minutes are allowed for the removal of each pint, a rate of flow which has been found by Fraentzel to obviate the disagreeable symptoms which sometimes occur when the flow is more rapid. The amount of fluid which should be removed varies, of course, in different cases. It is not advisable to attempt to remove all the fluid at a first aspiration and as a rule not more than two pints should be drawn off at one sitting. If during aspiration the patient begins to cough violently or complains of pain in the chest or faintness it is advisable to stop and to withdraw the cannula. The opening should be closed with a small piece of antiseptic wool and collodion.

A marked fall in the temperature follows aspiration in some cases, in addition to other signs of improvement. Thus, a man, aged 22 years, was admitted under my care at the Newcastle Infirmary on the seventh day of an attack of pleurisy. There were absence of vocal fremitus, dulness on percussion, and absence of breath sounds over the lower part of the right side of the chest as high as the upper border of the fifth rib in the nipple line in front and as high as the middle of the scapula behind. The apex beat was displaced to one inch outside the left nipple line. The temperature was 103° F. in the evening of the eighth day. On the ninth day 26 ounces of clear serous fluid were removed. After the tenth day the temperature did not rise above 101° but still rose to 100·6° in the evening up to the eighteenth day. On the nineteenth day 48 ounces of fluid were removed, after which the temperature did not again rise above 99·2° in the evening.

Aspiration is of little use, as a rule, in empyema except to give temporary relief. It is true that occasionally an empyema does not fill up again after aspiration, but this is rather the exception, and in all cases incision and drainage of the pleura should be carried out as soon as possible. In one case of double empyema which I aspirated to relieve urgent dyspnœa aspiration of one side emptied both sides, showing that there must have been a communication between the two pleural cavities. The child died but no post-mortem examination was made.

After aspiration the patient should remain in bed for at least two or three days. After that he may be allowed to get up as soon as his general and local condition allow it. The after-treatment of a case of pleurisy with effusion is of great importance and is practically the same whether the fluid has been absorbed or removed by aspiration. The great object in view is complete re-expansion of the lung. This is often difficult to attain, especially in the case of poor patients who are unable to carry out the most suitable treatment and in whom we often find signs of deficient expansion at the base of the lung long after the acute attack. As soon as the physical signs indicate that the fluid is being absorbed, or three or four days after paracentesis, it is advisable to start respiratory exercises which increase the intra-pulmonary pressure and so assist the expansion of the lung. For this purpose the simplest plan is to instruct the patient to inflate an ordinary indiarubber football bladder by blowing into it, as has been recommended by Mr. Bilton Pollard [12] in the treatment of collapsed lung after operation for empyema. The patient should be instructed to inflate the bladder as much as possible some six times in succession three or four times a day. The influence of thus making a respiratory effort against resistance in expanding the lung is easily illustrated by making the patient inflate the bladder while the chest is being aspirated just when the flow into the bottle ceases; a steady stream will at once begin to flow again as a result of the increased intra-pleural pressure. Dr. Osler recommends the use of Wolff bottles, an arrangement of bottles fitted with tubes through which water can be driven by blowing alternately from one into the other. The indiarubber bag is, however, much more simple and can easily be carried in the pocket.

A prolonged convalescence is advisable after a pleurisy with effusion. The importance of this is easily realised when we consider the great frequency of tuberculosis in these cases. As much time should be spent in the open air as possible and a gradually increasing amount of walking

[12] Loc. cit.

exercise should be taken in addition to the continued use of the pulmonary exercises. Exercises with dumb-bells and Indian clubs are also useful. The patient should be sent to as high an altitude as possible. Where the circumstances of the patient permit of it there can be no doubt that residence for a couple of months in the Alps, at a height of from 4000 to 6000 feet, gives the best results. The deeper and more rapid respiration which is necessary at this height gives better results in restoring the full expansion of the lung, in my experience, than any other method of treatment. I am inclined to think that those who are able to carry out this climatic treatment are less liable to develop pulmonary tuberculosis at a later date than those who do not.

The following two cases illustrate the advantage of a visit to high altitudes. The first was that of a young man, aged 25 years, whom I saw with Mr. A. H. Thompson of Darlington on May 9th, 1900. The patient had an acute attack of pleurisy with effusion on the right side. As the temperature was high and the effusion was not sufficiently large to necessitate immediate removal we decided that it was not advisable to aspirate then. When I saw him again 10 days later the effusion had not diminished and he was nervous, as he had fainted when an exploratory puncture was made. We decided that the fluid should be removed and aspirated about a pint while he was lying back on the pillows. After this he steadily improved and later spent some time in the hills at the head of Weardale. On July 13th he was much better but still was easily tired and had some dyspnœa on exertion. On examination there was still some impairment of resonance at the base of the right lung behind. We advised him to go to Arosa, in the Alps, where he spent two months at an altitude of 6000 feet. As a result of this the lung expanded fully and when I examined him on his return movement, percussion note, and breath sounds were quite normal again. He spent last winter in Egypt and when I examined him recently the condition of the lung and pleura was quite normal. He had occasionally slight pain with very deep respirations owing to adhesions which are sure to be left after such an attack.

The second case was very similar; it was in a man about 10 years older than the other case, whom I saw several times with Mr. T. A. McCullagh of Bishop Auckland. The patient had an acute attack of pleurisy with effusion on the right side which we found necessary to aspirate. After this he steadily improved and as soon as he was strong enough he spent some weeks at high altitudes, chiefly over 4000 feet, in the Alps. The result was most satisfactory, as complete expansion of the lung took place, so that no difference could be detected between the two sides of the chest.

A CONTRIBUTION TO THE STUDY OF TROPICAL ABSCESS OF THE LIVER.[1]

BY RICKMAN J. GODLEE, M.S. LOND., F.R.C.S. ENG.,
HOLME PROFESSOR OF CLINICAL SURGERY, UNIVERSITY COLLEGE, LONDON.

IN the course of an experience of tropical abscess of the liver somewhat large for an English surgeon, though ridiculously small as compared with that of those practising in the tropics, I have been led to think about the disease and its complications, and I trust that the following contribution to its study may be, if disjointed, not therefore without interest. Possibly it may elicit some useful comment and criticism and it is on this account that the statements contained in it are somewhat dogmatic. I will deal first with some of the complications.

Perihepatitis, usually perihepatic peritonitis, is an almost invariable accompaniment of tropical abscess and must always exist to a greater or less extent when the abscess reaches the surface of the liver, but it is astonishing how little there is in some cases even when the matter has approached within perhaps half an inch of the surface. If there be no adhesions the introduction of an exploring trocar or an aspirator needle into the liver will be probably immediately followed by the escape of pus into the peritoneal cavity. Supposing the needle has been introduced for the sake of discovering the existence of an abscess and the operation for its evacuation be immediately proceeded with there may yet have been time for a quite considerable quantity of pus to have escaped in the few minutes which have elapsed before the peritoneum is reached. It is even possible to mistake this free pus for the abscess itself. The further exploration of the liver under these circumstances is essential. But first the peritoneal cavity in the neighbourhood of the puncture should be carefully sponged, for although the pus may contain no other organism than the amœba coli and need not necessarily give rise to septic peritonitis there is no security that streptococci or staphylococci or bacterium coli commune may not be present. It is scarcely possible under these circumstances to sew the liver up to the abdominal wall, as each stitch will most likely enter the abscess cavity and the stitch holes will leak. It is safer, therefore, to pack round the part where the incision is to be made before the abscess is actually opened and after the opening has been made to manipulate the parts as gently as possible. Perihepatic peritonitis is the cause of the acute pain that is often met with as distinguished from the typical liver pains. This pain is, of course, superficial, and is accompanied by acute tenderness easily elicited by even light percussion. Peritonitis occurs often in definite attacks, accompanied by fever and vomiting, and often yields a useful physical sign—i.e., *friction*, which may be felt with the hand and heard with the stethoscope over the liver. It exercises a protective effect by shutting off the part into which an abscess is pointing, so that when rupture occurs a sub-diaphragmatic abscess results, and not a general peritonitis.

As might be expected, peritonitis most commonly affects the convex surface of the liver which thus often leads to the adhesion in whole or in part of this surface of the liver to the diaphragm. When this has occurred an enormous amount of pus may accumulate in the liver without giving rise to any enlargement downwards and the enlargement upwards may only be indicated by partial dulness in the lower part of the chest; the dulness is least marked when the lung is adherent to the pleura because the lung cannot be then displaced upwards by the approximation of the diaphragm to the chest wall. Perihepatic peritonitis may also occur on the under surface of the liver and may then give rise to very serious results. The stomach, duodenum, and colon may become firmly adherent to the liver and after the abscess has been evacuated the consequent contraction may lead to considerable displacement of these viscera, giving rise to such troubles as dilated stomach from kinking of the duodenum. But it is a much more serious thing if the transverse fissure and the small omentum have been the seat of the peritonitis, for any one or all of the hepatic ducts may be partially or completely obstructed. I have recently seen with Dr. P. Manson a case which bears out this statement.

A man, aged 35 years, who had been in India almost continuously since 1887 and had had some pretty severe attacks of fever, began to have hepatic troubles following dysentery in May, 1900. The special points in his illness were that he had had several attacks of acute pain and indigestion, accompanied with high fever; and that an unsuccessful attempt to open the abscess through the chest wall in the lower axilla had been made in Madras in May, 1901. It will be observed that the history suggests a good deal of peritonitis. I opened the abscess without difficulty through the old scar in July, 1901, and during convalescence, which was rather tedious, there was from the first a rather large quantity of bile in the discharge. This escape of bile is not uncommon; it indicates that a bile-duct of some size communicates with the abscess, and though it delays healing it seldom gives rise to trouble. In this case, however, after the abscess had contracted and pus had ceased to flow bile still came from a small opening in the scar. After a while it nearly stopped. But at the end of September, after some abdominal pain, all the bile came through the wound and the stools became white. On Nov. 7th the flow of bile ceased and the patient became intensely jaundiced. Knowing the danger from hæmorrhage of operating on a jaundiced patient I passed probes into the wound and fortunately re-established the flow of bile by this channel, and when the jaundice had diminished, and after the administration of large doses of chloride of calcium, I opened the abdomen on Nov. 28th and found the matting together of the viscera which I have described above. It was quite hopeless to free the common bile-duct from the dense surrounding adhesions, as I had hoped to do, and so, as the gall-bladder,

[1] A paper read before the Royal Medical and Chirurgical Society on May 13th, 1902.

though not distended (because the bile was escaping through the wound), contained bile, I anastomosed it with the first part of the duodenum, using a Robson's bobbin. It was a difficult task. I ought to have waited still longer—i.e., until the jaundice had completely disappeared—for after a few days hæmorrhage occurred in the wound, and to the consequent stretching of the parts I attribute the partial giving way of the junction and the escape of bile and duodenal contents through the abdominal wound for a while. At last, however, the leak stopped and the wounds healed, the stools becoming of normal colour and the patient's health soon re-establishing itself. I must add, however, that he had an attack apparently of indigestion in January, 1902, followed by the escape of bile for a few days from the abdominal wound. But this has again closed and at present he is quite well. His condition for the next six months will be watched with interest.

The escape of the whole of the bile through the wound is fortunately not of common occurrence. I have never before met with it in cases of tropical abscess though I have seen it in hydatid of the liver. It does not necessarily lead to loss of appetite or difficulties in digestion, but it sooner or later causes emaciation which may become extreme. I have seen bedsores form over the projecting angles of the ribs and angles of the scapulæ. I am permitted by the kindness of my friends Dr. Manson and Sir W. H. Bennett to mention the only other two instances which I have heard of in connexion with tropical abscess, and I would suggest that in fatal cases the same condition as that which occurred in the one that I have just described will be met with. In Dr. Manson's case (Case 1) the patient died after four months in a state of extreme emaciation though the fistula was apparently beginning to close; and in Sir William Bennett's case (Case 2) the sinus gradually closed after seven months and the patient made a complete recovery. In connexion with this subject reference may be made to cases, with which all will be familiar, where there is complete obstruction to the common bile-duct either from calculus, tumour, or inflammatory adhesions. These patients do not, as far as I have seen, emaciate; on the contrary, their nutrition may remain fair for years and it is quite remarkable how long the fatal event may be delayed.

It has been shown by the beautiful observations of Klein that the direction of the flow in the lymphatics of the diaphragm is upwards. As might, therefore, have been expected, pleurisy is a very common accompaniment of tropical abscess. It is a useful diagnostic sign. It is also a note of warning. Rupture into the pleura is in my experience one of the most dangerous outcomes of this disease. I could, if it were advisable, give more than one example of this catastrophe being followed by the most extraordinarily rapid pleural effusion. In one, indeed (Case 3), though I saw the patient within 24 hours of the rupture of an abscess which had for so many months remained dormant that its very existence had been doubted, the patient appeared to be moribund, and the pleura contained an enormous amount of fluid. But even when the pleura is opened at once, if the lung have not previously contracted adhesion to the chest wall, it is not unlikely that it may collapse against the spine and never expand again, and the most extensive Estlander's operations may fail to effect a cure. The patient, therefore, who has extensive pleural adhesions is saved from very grave dangers.

It would often save trouble and anxiety if the presence or absence of such adhesions could be determined. This is, however, notoriously difficult and often impossible, which is my excuse for mentioning two aids to diagnosis which have not, I think, received sufficient attention. 1. The upper level of the dulness caused by a liver which is enlarged upwards is, speaking generally, considerably lowered when the patient is placed on his left side. If, however, the lower part of the pleural sac is obliterated by adhesions this does not occur, because the lung cannot be sucked down into the pleural sinus by the falling away of the liver—that falling away which so frequently causes pain when the patient attempts to lie on the left side. 2. In very thin people, even when the parts are normal, I have pointed out[2] that it is often possible on careful inspection to see the lower margin of the lung on the right side move upward and downward during respiration. It may sometimes be observed on the left side, especially if the spleen be enlarged, or if there be a great enlargement of the left lobe of the liver, or, indeed, any tumour in this situation; and on the right side it is more obvious when the liver is enlarged than when it is of normal size. This sign requires somewhat careful inspection for its discovery and it is only of use in emaciated or very thin subjects. If it be present it is a certain proof that there are no adhesions in this situation and that there is little or no pleural effusion.

Whilst writing this paper I had under my care a young woman in the last stage of emaciation from advanced actinomycosis, in whom I was able to demonstrate this phenomenon to spectators standing at some little distance from the bed. It was in her visible on both sides. It has been doubted by physiologists whether on deep inspiration the lung ever reaches the bottom of the pleural sinus. Careful observation of this patient showed that on very deep inspiration the lower border moved quite as far as the anatomical limit of the pleural cavity.

Though not quite germane to the subject it may not be out of place to throw out the suggestion that when the liver is much displaced downwards by a pleural effusion and there is no corresponding displacement of the heart outwards it is almost certain that the base of the lung is not adherent to the diaphragm and that under these circumstances it may be almost impossible to say whether the fluid is above or below the diaphragm.

In connexion with the question of adhesions I desire to make a practical suggestion. If the incision for opening the abscess has necessarily to pass through the pleura below the lower border of the lung it is often difficult or impossible to tell whether the cavity is obliterated by lymph or not. I have more than once cut down through both layers of the pleura and as no air has entered I have gone on to incise the diaphragm and liver. On withdrawing the finger, however, the ominous sound made by air rushing into the chest has shown that the two layers of the pleura were at first only held together by the attraction of cohesion or by very feeble adhesions, and a laborious process of stitching up the hole had to be undertaken. The right way to proceed, if there be any doubt, is to cut through the diaphragm across its fibres at the part nearest its costal attachment and to sew up a flap of the muscle to the intercostal muscles at the opposite end of the wound. The incision into the abscess can then be undertaken without fear of producing pneumothorax. By adopting this precaution I do not expect to meet with the above-mentioned accident again.

Pleurisy may lead to serous effusion, or to empyema, without any rupture of the liver abscess through the diaphragm, and such an effusion may keep up the temperature after the successful evacuation of the hepatic abscess. I once opened a large tropical abscess on an Indian army surgeon who was in an extremely exhausted condition. There remained some dulness in the back and the temperature did not fall to normal. The removal by aspiration, several days later, of a few ounces of clear fluid was immediately followed by disappearance of the pyrexia and from this time the patient made an uninterrupted recovery. On another occasion, when the physical signs and symptoms were almost the same, the fluid was pus, and an equally good result followed the insertion of a drainage-tube into the pleura. A less successful result followed in the case of a young officer whom I saw with Dr. Ringer and whose abscess I had opened in the lower axilla. Repeated attempts at aspiration of the chest were unsuccessful, because there was much recent lymph as well as fluid in the pleura. In the hope of securing better drainage I made a second incision into the abscess behind, and in doing so found that I had opened the pleura and a considerable quantity of clear fluid and large masses of lymph escaped. Thinking that some of the pus from the abscess had probably entered the pleura I therefore placed through this second opening one tube into the abscess and one into the pleura, but I am sure it would have been better to have sewn up the opening in the pleura and to have left this cavity for treatment later; for the recent pleural adhesions gave way owing to the violent coughing of the patient, the lung collapsed, and a general pneumothorax was produced. The case was a very septic one and a fatal result was probably inevitable, but I think that it was hastened by the pleural complication. I said that the existence of friction was an *ominous* sign, for although rupture into the lung, as everyone knows, often leads to a rapid cure of the disease, no one who has seen the disastrous results that may ensue would dream of waiting for it to occur. *When there is marked pleural friction, therefore, exploration of the liver should be made without delay.*

I am thus led to the next part of my subject.

[2] Brit. Med. Jour., Oct. 6th, 1900, p. 997.

Changes that take place in the lungs.—It is obvious that in every case in which an abscess bursts into the lung a certain amount of lung tissue must be destroyed and an abscess of greater or smaller extent must be formed. In those which recover in a short time this is a negligible quantity. But it is often far otherwise. The next most favourable cases are those in which a small abscess forms in the lower part of the lung either in front or behind. Most commonly the signs of cavity will be met with below and to the inner side of the right nipple; but the cavity not infrequently occurs behind, and in rarer cases a liver abscess bursts into the left lung and forms a cavity there. At the end of this paper will be found an account of cases illustrating each of these conditions (Cases 4, 5, and 6). If such abscesses are opened as soon as they are discovered it is probable that they will heal readily. But if operation is delayed a series of phenomena may occur that are not unlikely to give rise to a very chronic condition which may end fatally. These abscesses do not behave like those resulting from pneumonia, injury, or tubercle, but have a peculiar tendency to burrow by means of long and intricate tubular processes which are very difficult to follow up and drain and may lead to the gradual destruction of large areas of lung tissue. I have seen one lobe almost completely disorganised in the course of an illness extending over many months (Case 7). The suppurating tracks are sometimes in the lung itself, sometimes partly in the lung and partly in the pleura. The pus discharged from them has the characters which we are accustomed to associate with liver pus—that is, it is inodorous, thick, slimy, and chocolate-coloured, and may contain the amœba coli, so that I am inclined to believe that the peculiarity of the process depends upon the presence of this parasite. In these cases hæmorrhage is a common symptom; it is often frequent and severe and occasionally is fatal (Case 8). The continued discharge of what has been recognised as liver pus has led to the assumption that the abscess of the liver is still unhealed; but this is certainly not always the case, for I have met with an instance in which the patient, a young man from an unhealthy Indian tea-garden, died from hæmorrhage and at the post-mortem examination so little trace of the liver abscess remained that the medical man who made the necropsy stated that there never had been an abscess of the liver at all. This, however, I knew to be incorrect, for I had had my finger in the patient's liver, and the observation did not surprise me for I have been struck with the complete way in which all traces of a liver abscess even of large size may disappear (Case 7). This is surely a not unimportant fact in making a prognosis, and it accounts for the completeness of the cure if recovery takes place. It is also interesting to note that if an abscess forms in the left lung, as a result of the inspiration of matter from the opposite side, the pus formed in it may be slimy and chocolate-coloured like that which came from the original abscess (Case 9). I do not mean to say that chocolate-coloured pus may not come from a primary abscess of the lung; it may do so, but physicians will agree that this is a most exceptional occurrence. *It may be safely stated that the persistent discharge of chocolate-coloured pus does not prove that the liver abscess is not healed.*

Another danger to which a patient with an imperfectly drained abscess of the lung is exposed is abscess of the brain. I have met with two such cases following tropical abscess (Cases 9 and 10). In one I opened the abscess myself and in the other I directed the operation; both ended fatally.

The practical deduction from what has been stated is that *pulmonary abscess consequent on hepatic abscess should be opened without delay*, and that a careful search should be made for outlying suppurating tracks; that these should be drained by the insertion of full-sized tubes, and, as far as possible, laid freely open even if this should necessitate extensive removal of ribs; and, finally, that the tubes should not be removed or shortened until the surgeon is satisfied that closure of the abscess is almost complete.

Dr. Manson, with whom I have been associated in several of the cases that have come under my care during recent years, has shown that in the majority the amœba coli is present in the pus. In some its presence is more easily demonstrated a few days after the abscess is opened than on the day of operation. In some it is found in abundance many weeks later, when the case is perhaps pursuing a normal course towards recovery. There is, therefore, strong suspicion that the amœba has something to do with the causation of tropical abscess. This persistence of the organism and the very slight effect which it may under some circumstances produce possibly account for one of the most striking features of this disease—its occasional extreme chronicity. One cannot fail to be struck with the long periods of time during which an abscess may be latent, with the way in which symptoms that point strongly to the existence of an abscess may disappear, and with the comparatively slight disturbance of health that is not inconsistent with the presence of an abscess. I have known a young officer who was suspected of having an abscess go through a winter's hunting and return to show himself, as he thought, well, though the abscess was almost pointing at the epigastrium, and it is well known that an abscess may show itself years after a patient has returned from the tropics.

Some abscesses, on the other hand, after a long period of latency suddenly become acutely septic. These cases most likely become infected from some part of the intestinal tract with the bacterium coli commune or some other septic organisms.

I had under my care last year a young officer invalided home from India on account of liver abscess, but his symptoms so completely disappeared that he was supposed to be well and was sent abroad to recruit. He had, however, occasional attacks of acute epigastric pain, in one of which a swelling formed at the epigastrium which was caused by the rupture of the abscess in this situation. This was accompanied by great collapse and was quickly followed by double parotid bubo. The abscess and the two parotid buboes were opened but the patient died in a few days with all the symptoms of acute septicæmia.

Some liver abscesses contracted in the tropics are, on the other hand, acute and septic from the first. These should, I think, be placed in a class by themselves and are not, properly speaking, examples of tropical abscess but are part of a general pyæmic process. They may arise in this country. They are often multiple and, as far as my experience goes, are quite hopeless cases to treat. But some genuine tropical abscesses are very acute. I saw lately a young man from Central Africa who had had many attacks of fever but no hepatic symptoms till he reached Europe on leave. In the course of a few weeks he developed a small abscess in the right lobe. It was easily reached and it healed in a shorter space of time than any other case I have had to treat, a very few weeks sufficing for the cure.

The majority of tropical abscesses that I have seen have been single and I believe that many of the cases which have been reported of a second abscess following the first are those in which the drainage-tube has been removed too soon or in which a diverticulum of the original abscess has never been properly drained and has been shut off from the main cavity. I think it is of great importance at the time of the operation to explore the cavity very carefully with the finger and to open up all branches of it, as far as possible, before the drainage-tube is inserted. I am, of course, not likely to forget that the cases which we see in England have been sent home from distant parts of the world, and am prepared to hear that others of a totally different type may be met with by surgeons who are on the spot where the disease originates. I have, indeed, been frequently told that we in England do not see the really bad cases, which may be true, though it must be owned that some of them are bad enough in all conscience.

The last point I would deal with is the question of the *best place to make the incision* and will begin by stating that I consider that, if possible, the seat of election for the operation is in the lower axilla. If two lines be drawn vertically downwards, prolonging the anterior and posterior folds of the axilla as far as the margin of the ribs, they will at the lower part inclose the space where the widest interval intervenes between the lowest part of the pleura and the costal margin, an interval generally of two inches and often even greater. The incision may conveniently be made transversely—that is, parallel with the lower margin of the pleura—and the portion of one rib and cartilage that crosses the wound obliquely should be removed, great care being taken to separate the structures on the deep surface of it without injuring the pleura in case by chance it should extend lower than usual. Generally the structure thus exposed consists only of the origin of the diaphragm, but if the pleura should be low it is easily recognised and may without any difficulty be dissected up without injuring it and fastened out of the way to the upper part of the wound. If it should accidentally have

been opened the suture of the opening is a simple matter and it is essential to make it perfectly air-tight before proceeding. The rest of the operation consists in incising the diaphragm, either in the direction of its fibres or across them (I prefer the former method), and then cutting through the diaphragmatic peritoneum. If there be no adhesions the liver may either be sutured to the diaphragm and the chest walls or the parts around the opening may be carefully plugged with some antiseptic material. If the latter course be adopted it must not be forgotten that if the abscess be large the liver will at once shift its position and that this shifting will take place in the upward direction.

It may be asked, "Why lay down this dogmatic rule when it is well known that the abscess may occur in any part of the liver?" But to this it may be answered that, in my experience at all events, by far the majority of abscesses occur in the right lobe, and that if they be of large size they can generally be opened in this situation even if they form a projection in the epigastrium or most nearly approach the surface behind. I have already referred to the difficulties and dangers of incising the liver behind, depending upon the fact that it is necessarily a transpleural operation. The epigastric incision does not drain well and I am therefore in the habit, even if the abscess appears to be pointing in this situation, of ascertaining to begin with whether or no the matter can be reached at a moderate distance from the side. It is a question whether, if this be found to be the case, and after making the lateral incision the epigastric tumour disappears, the surgeon should be content or whether he should make an epigastric incision as well. A case recently under my care and referred to in an earlier part of this paper supplies an argument in favour of the latter course. I had been content with the single incision in the side, but it turned out that the epigastric swelling had been caused by a localised peritoneal collection of matter due to the bursting of the abscess in front. The communication was not, however, sufficiently free to allow of satisfactory drainage and it was necessary to make the anterior opening in the course of a few days.

I do not deny that the epigastric incision is the only possible one in certain abscesses in the right lobe and in all of those that occur in the left lobe. I would strongly deprecate a lateral incision below the costal margin, because the opening is certain to become troublesomely oblique in the course of a few days as the liver shrinks up under the ribs. The opening into the liver itself may conveniently be made with a long pair of dressing forceps followed by the finger. In this way abscesses at a great distance from the surface may be safely reached and effectually drained. Hæmorrhage is often free, but it usually stops spontaneously if the finger be retained for a minute or two in the wound. Should it not do so careful plugging round the tube must be practised. Some cases bleed extensively after the operation and the bleeding occurs on subsequent occasions. I am not referring to the slight hæmorrhages which often occur for many days in cases which are pursuing a normal course, but to those in which the loss is considerable. I look upon this as a grave sign and I think it occurs most in the septic as opposed to what I have called the amœbic abscesses. A certain amount of blood often escapes into the peritoneum as the result of the preliminary puncture. It seldom is of any moment, but dangerous and even fatal cases of exploratory puncture have been recorded. It is not unlikely that these patients are either jaundiced or suffering from leucocythæmia.

I cannot conclude without referring to Dr. Manson's ingenious device of introducing a drainage-tube through a large trocar plunged boldly through all the superficial tissues into the abscess. It has yielded excellent results in the hands of many and I would not say a word against it. But for my own part I prefer to know in what condition I have left the pleura and peritoneum, and to have ascertained what the size and shape and possible ramifications of the abscess may be, to have opened these up if it appears to be necessary to do so, and to have placed the tube or tubes in what seems to be the best position for the future draining of the cavity.

ILLUSTRATIVE CASES.

CASE 1. *Escape of all the bile through the incision made into the abscess; death.*—This case was under the care of Dr. Manson and has been published by him in the Medical Reports of the Imperial Chinese Maritime Customs, *circa* 1884. The patient was a man, aged about 34 years, a tea taster, resident 15 years in China, chiefly at Amoy. 10 years previously he had had pleurisy and suffered from stricture and chronic sores on the legs. For the previous four or five years he had had chronic dysentery and had been of intemperate habits. Liver symptoms began in February, 1883. There were pain, fever, and other symptoms of hepatitis. By August the liver had enlarged considerably and some friction was heard. On Sept. 14th he reluctantly consented to an exploration and pus, which was found at a depth of two or three inches in large quantity of a dark chocolate-brown colour, escaped freely through the cannula which had been introduced. A drainage-tube was passed through the cannula eight inches long and through this the residual pus was from time to time removed by aspiration. Bile in small quantities appeared in the pus and by the beginning of October it was large in amount. On the 13th there was an extensive hæmorrhage. On the 16th the abscess was irrigated with a solution of salicylic acid and some sloughy material escaped. On the 19th the bile was discharged in very great quantity and on the 30th it all came through the wound and the stools became white. About the same time some thick sloughs came away. After this the bile was collected in a bottle and the daily amount varied from 28 to 35 ounces. His weight diminished but the appetite remained good. On Dec. 22nd the tube was plugged but this was followed by a rise in temperature so the plug was removed. On the 24th, 25th, and 26th there was bile in the stools. He was then sent on a voyage to America, but on the way he died on Jan. 29th, 1884, apparently from exhaustion owing to the very rough weather; but it was noted that the amount of bile was reduced to 14 ounces per diem and that the stools were coloured, so that it is probable that he would, like the patient in the following case, have recovered if he had not experienced such a tossing upon his voyage.

CASE 2. *Escape of all the bile through the incision made into the abscess; recovery.*—The patient was a man, aged 46 years, under the care of Sir W. H. Bennett, who has kindly furnished these notes. He had lived in India since the age of three years. He was well until October, 1898, when he began to have occasional attacks of acute diarrhœa and severe malarial fever. In May, 1899, he came under observation suffering from an abscess in the right lobe of the liver, which was opened below the end of the eleventh rib, at which spot the abscess was bulging, on May 22nd. Nothing peculiar was noticed at the operation, but seven hours afterwards the dressings were thoroughly soaked through with pure bile, which continued to flow intermittently. The stools were generally white but sometimes piebald, and they partially regained their normal colour during the occasional stoppage of the leakage. Dyspepsia was troublesome. There was often great constipation and sometimes diarrhœa. Emaciation was extreme. The wound was open from May 22nd to Dec. 26th, when permanent closure occurred. Leakage stopped suddenly twice after gradually diminishing to a certain point. The first stoppage of leakage occurred on Sept. 28th and no bile was seen for a week. Then a profuse flow began suddenly. During the cessation of leakage the stools became more normal in colour but they whitened again with the recurrence of the flow of bile. The patient was more or less jaundiced until about a fortnight before the final healing of the wound.

CASE 3. *Rupture into the pleura; very rapid effusion.*—The patient was a man, aged about 25 years, a Ceylon tea-planter, under the care of Dr. Bramwell of Cheltenham. He had had hepatic symptoms dating from August, 1895. They subsided and it was thought that the abscess had disappeared but symptoms reappeared in the spring of 1896. The only physical sign observed was a slight elevation of dulness in front. It was intended that I should see him on April 26th but on April 23rd the abscess burst into the pleura during the night. On the morning of the 24th the right side was dull all over and the patient was very ill indeed. In the afternoon I saw him and first aspirated two pints of sticky material resembling pea-soup, and then, without removing any rib, let out a further large quantity by an incision on the seventh interspace in the axilla. I did not think that he could stand a more severe operation. He died in a day or two and a second abscess was found which was apparently about to burst into the peritoneum. The position of it was not stated.

CASE 4. *Pulmonary abscess in the anterior part of the lung.*—The patient was a lady, aged about 30 years, who had been in India and who was seen with Sir Richard Douglas Powell. This is one of the very few cases of tropical abscess which I have met with in women. The

patient developed an abscess in the right lobe of the liver which burst into the lung and which I opened by means of a lateral incision in July, 1896. The fever did not completely subside and there were signs of right pleurisy, but exploration with the aspirator revealed nothing. The expectoration continued. She left for the country with the wound unhealed and by November, 1896, it was obvious that there was an abscess in the lung to the right of the sternum, about opposite the fifth rib. This was opened and drained. The expectoration stopped and both wounds finally healed soundly. The patient has remained well since.

CASE 5. *Pulmonary abscess in the base of the lung behind.*—Dr. S——, aged 35 years, I.M.S., China and India. He had had dysentery and hepatitis in 1894 and was invalided home in September, 1894. He had one rigor in October, 1894, and right pleurisy lasting one month followed by normal temperature for a fortnight. The abscess burst into the lung in December, 1894. I saw him in January, 1895. The physical signs indicated a liver of normal size and a pulmonary abscess behind. The expectoration was about six ounces of blood-stained muco-pus per diem. The pulmonary abscess was opened on Jan. 31st, 1895. The expectoration stopped 36 hours after operation. The abscess was healed completely in three weeks.

CASE 6. *Abscess in the left lung.*—Lieutenant ——, aged 28 years, was sent to me by Dr. John Anderson. He had been in India from 1892 to 1899. He had had no fever or dysentery. Hepatic symptoms began in May, 1899. An operation was performed but no pus was found. Expectoration of blood and pus began in July, 1899, after a fall. He was invalided home in November, 1899. Left empyema was diagnosed. An operation was performed, resulting in the discovery of some clear fluid in the left pleura and the absence of an abscess beneath the left side of the diaphragm. On a subsequent occasion the right pleura and the subdiaphragmatic region were explored and were found to be healthy. I first saw the patient on March 17th, 1900. The physical signs pointed to an abscess in the base of the left lung, behind and inside and below the angle of the scapula. There was no marked enlargement of the liver. There was copious expectoration of reddish-brown pus. The expectoration occasionally stopped, which always caused a rise of temperature. I opened the abscess in the situation indicated by the physical signs—namely, higher up than the previous incision into the left pleura—removing a piece of the eighth rib. The abscess was in the lung, it had thick walls and many prolongations. No communication was found with the liver. His general health at once became quite good, but healing was, as might have been expected, slow, the wound not being completely closed till November, 1900.

CASE 7. *Extensive and fatal destruction of lung.*—The patient was a man aged 46 years. When first seen in June, 1897, by Dr. Hector W. G. Mackenzie he had been 22 years in India. In 1890 he had malarial fever. In 1892 he had typhoid fever and was afterwards invalided home. There was no history of dysentery. In February, 1897, he was quite suddenly attacked with diarrhœa and he temporarily lost power over the sphincter ani. He had pain over the ribs on the right side at the same time. He went up to the hills for a time and while there was very ill with fever every night and rigors. Then a purulent discharge from the rectum came on. He returned to Calcutta and an abscess of the rectum was diagnosed; he was relieved by hot hip-baths but was very ill and he lost flesh and strength. The pain in the side continued and in March a severe dry cough came on. In April he began to expectorate pus stained with blood and continued to do so more or less till the end of the case. He was sent to England. Cough, sweating, pyrexia, and depression of spirits continued on his voyage home. When examined by us there were signs of enlargement of the liver upwards in front (level of the third rib) but no increase of liver dulness downwards. The rectum appeared to be healthy. On July 8th a large abscess was opened anteriorly and laterally and this was followed by a gradual improvement in health; but drainage was never satisfactory and there were occasionally attacks of increased cough and expectoration owing to retention of discharge. On Dec. 6th the ramifications of the abscess, which were now found distinctly to involve the pleura, were very thoroughly opened up. During the year 1898 there were periods of improvement and relapse. At one time it looked as if he would make a good recovery; but at the end of the year the tendency was gradually downhill and his condition became more obviously septic. On March 27th, 1899, though he was then very ill indeed, a further attempt at opening up the suppurating tracks was made. They were found to be very extensive, reaching up almost to the apex of the lung. The cavities were bounded in part by the chest walls, in part by broken-down lung tissue. A great portion of the anterior aspect of the right lung had been destroyed by the suppurating process. He only survived this operation a few days. There was no post-mortem examination.

CASE 8. *Destruction of lung; fatal hæmoptysis.*—The patient was a man, aged 26 years, a tea-planter, who was born in India, was educated in England, and who returned to India in 1886 and stayed there till 1893, and had had some attacks of fever. He had dysentery in March, 1893, and was in hospital in Calcutta. The dysentery was not quite cured and he was invalided home in November, 1893, in a very bad state. The dysentery stopped on the voyage and on arrival home he was well except for a dry cough. On Dec. 13th he began to spit blood and matter. On Feb. 20th, 1894, he came under my care. He had lost three stones in weight, and had constant cough, copious chocolate-coloured expectoration, hectic temperature, diarrhœa with blood and mucus, pain in defecation, and difficulty in micturition. His appetite was good; he was given a milk diet. The physical signs indicated great enlargement of the liver and an abscess at the base of the right lung. An operation was performed on Feb. 21st. An abscess in the lung was opened behind and a finger was passed through the diaphragm into the liver. Considerable improvement followed but there were frequent hæmoptyses. Fatal hæmoptysis occurred on April 24th, 1894. Post-mortem the liver was found to be firmly adherent to the diaphragm at the upper part but there was no sign of an abscess. The right lung was firmly adherent to the diaphragm and to the chest wall up to the level of the eighth rib. A large irregular cavity occupied the lower and middle lobes and there was a cavity as large as a Tangerine orange at the right apex. The liver and kidneys were amyloid.

CASE 9. *Abscesses in both lungs and in the brain.*—The patient, a man, aged 43 years, had lived in India for 10 years. He had dysentery soon after his arrival, from which he completely recovered. 16 months before his admission to hospital he had had symptoms of abscess of the liver. Five months later it burst into the lung and four months after that he was operated upon, portions of the seventh rib in the axilla and eighth and ninth ribs behind having been excised. This had not relieved the patient; it was uncertain if pus was found. On admission there were no signs of enlargement of the liver. The physical signs pointed to the existence of an abscess at the base of the right lung. Exploration, however, failed to detect the presence of pus. Three days after operation symptoms of cerebral abscess commenced. Eight days later an abscess was opened in the right occipital lobe, the only localising sign being tenderness on percussion. On the same occasion an abscess in the base of the right lung was opened through the old scar in the axilla, more space being gained by removal of more portions of ribs. No improvement followed and another trephine opening was made in the hopes of finding a second abscess in the brain, but none was discovered and the patient died 20 days after the first operation. At the post-mortem examination the lower lobe of the right lung was fibrotic and riddled with cavities. The right pleural cavity was obliterated at the base. The left lung contained a cavity as large as an orange opposite to the fifth, sixth, and seventh ribs, and the pleura in this situation was obliterated. The brain contained a large abscess in the right occipital lobe but there were no other collections of pus. There was little or nothing to indicate the old abscess in the liver.

CASE 10. *Abscesses in the lung and the brain.*—The patient was a man, aged 33 years, a merchant, and was seen with Dr. Crombie on Jan. 9th, 1901. He had lived in Calcutta for seven years. He had had very little fever. In May, 1897, he had dysentery and congestion of the liver which lasted till the end of the year. He was invalided home on account of sprue in January, 1898, and remained till September of the same year. Liver symptoms began in September, 1899. Pus was removed by aspiration in October. Aspiration was again performed in November but nothing was found. In January, 1900, cough began and had continued ever since. He had had intervals from fever and cough lasting a week but not longer. These were followed by a rise of temperature and expectoration. He had lost some flesh but not much. In June, 1901, he had signs of a pulmonary abscess at the right base which was opened by a posterior

incision opposite the eighth rib. There was a gradual improvement, though drainage was never perfect because the cavity had many branches and a considerable amount of bright blood and pus was discharged from the wound and expectorated as well. He improved so much, however, that he was sent to Christchurch, Hants, under the care of Dr. Leslie B. Burnett. In September symptoms of cerebral abscess manifested themselves and before long symptoms pointing to affection of the left motor area appeared. Dr. Burnett explored this region but found no pus. A few days later, at my suggestion, he explored further back and found a considerable abscess in the left occipital lobe. There was some improvement but the patient died on August 3rd. Post mortem the right lobe of the liver was found to be adherent to the diaphragm but it contained no pus (compare Case 8); the abscess in the lung was extensive and it branched out into numerous pockets; part of its wall was formed by the ribs (compare Case 7). A considerable cavity existed just beyond the end of the drainage-tube. The abscess in the occipital lobe was not empty, an accumulation existing beyond the end of the drainage-tube.

IS CHLOROFORM MORE DANGEROUS THAN ETHER?

CONSIDERATION OF RESPIRATORY TROUBLES FOLLOWING OPERATION DURING 12 MONTHS AT A LARGE GENERAL HOSPITAL.

BY H. CHALLICE CROUCH, M.R.C.S. ENG., L.R.C.P. LOND.,
ANÆSTHETIST TO ST. THOMAS'S HOSPITAL;
AND
EDRED M. CORNER, M.B., B.C. CANTAB., F.R.C.S. ENG.,
RESIDENT ASSISTANT SURGEON, ST. THOMAS'S HOSPITAL.

DURING the session 1899–1900 there took place at the Society of Anæsthetists a discussion on the After-Effects of Ether Inhalation on the Respiratory System.[1] The discussion was carried on by a large number of members and visitors, all, or at any rate a majority, of whom were experienced in that particular branch of the profession. As the meeting proceeded it became increasingly evident that not only was there no general consensus of opinion as to the cause and prevention of such respiratory affections after ether, but it was even denied by some that such complications existed at all, and the climax was reached, as was only right and proper, when the President, Dr. J. F. W. Silk, in the last words of the last speech, said that "he was almost inclined to think with Mr. Carter Braine that the inhalation of ether was, if anything, protective against pneumonia."[2] As there was, however, and always has been, a very strong opinion among medical men generally that such complications did arise after ether it occurred to us that the matter required further examination; we therefore determined for a space of 12 months to watch every in-patient in St. Thomas's Hospital who had had ether or chloroform administered to him and see in what proportions these respiratory complications did arise.

For such a series of observations to be accurate and satisfactory they must be undertaken by one who is not only in a position, but is forced by routine, to examine every patient from the date of operation to the date of convalescence or death. The observation, moreover, must be undertaken by the same man over the whole period. Such an observer is, as a rule, difficult to discover in a large hospital, and it must be a large hospital, otherwise the number of patients would be too small to be of value; but at St. Thomas's Hospital in the surgical registrar we have such an officer with the necessary qualifications and that share of the work has been done by him.

We had at the outset made up our minds that we would include in our list no cases of "ether inflammation" (by this we mean any respiratory complication following the administration of ether) which did not arise within 24 hours. We were quite aware that many observers, both at home and on the continent, had given it as their opinion that respiratory troubles arising even as late as three weeks after the inhalation might be due to the latter. We, however, bearing in mind Dr. Dudley Buxton's remarks on this point, foresaw that unless we fixed a narrow time-limit it would be pointed out, and rightly, how a number of other factors would come into play which would lead a large number of our cases to be rejected.[3] In order still further to disarm criticism we abstained from adding to our list any case in which the temperature may have been influenced by suppuration. Cases did occur of fever with respiratory complications which we were satisfied were true cases of "ether inflammation," but as there was more than stitch-hole suppuration we felt that they were "not proven" and rejected them. One case (No. 9 on the list) would seem at first to have contravened this rule, but in reality it did not do so, as the sloughing of the flap and the subsequent suppuration started after the bronchitis had stopped. The same rule applied to patients who might have had influenza or tubercle.

It will be as well here to state the conditions under which patients are operated on at St. Thomas's Hospital. The anæsthetic is administered either by the staff anæsthetist or by a student under his direction or by one of the house officers. The operation is performed in nearly all cases in one of the large theatres. The anæsthetics employed are either gas and ether or chloroform. The only mixture that is used is A.C.E. and this hardly ever. One of the staff (Dr. E. H. Grant Morris) we believe very occasionally uses equal parts of chloroform and ether for children, and Mr. W. Tyrrell, President of the Society of Anæsthetists, also very occasionally gives a demonstration of his "two bottle method." The exceptions, indeed, to the administration of ether with gas or chloroform alone are very few. The mask used for chloroform is a wire frame, covered with lint, the lint being renewed for each patient. The apparatus employed for ether is Clover's portable inhaler with a bag made of red rubber which is boiled after each case and with a facepiece that is carefully washed. The gas is administered through a Barth valve, the bag being a four-gallon one. No wet towels are used at all during the operation, the patient being covered with towels which are dry after being sterilised in tins surrounded by superheated steam. After the operation the patient is carried in a trolley along a corridor to the ward. Where the ward is above the level of the corridor he is also taken in a lift. The remaining patients—cases mainly of fractures requiring setting and of cellulites requiring incisions—are operated on in small theatres opening directly out of the wards, the anæsthetic here being invariably administered by a house officer. The locale and the type of operation are not the only differences. A very large number of these cases are chronic drinkers, some, indeed, suffering from alcoholic poisoning at the time of the anæsthetic, and many, owing to their septic condition, are much enfeebled. They are all operated on within a few hours of admission and therefore undergo no preparation, and finally—a matter of much importance—the ether is nearly always given without the previous administration of gas.

During the 12 months under consideration (the year 1900) there were given in the hospital just over 3000 anæsthetics, both chloroform and ether. The figures cannot be exact, as a certain number of casualty cases had more than one anæsthetic, the second being for purposes of readjustment of splint, &c. We do not think, however, that the error would be 20 one way or the other. 2642 of these were given in the principal theatre, the remainder in the smaller theatres adjoining the wards. The accompanying table contains details of 10 cases of respiratory complications undoubtedly due to the anæsthetic. All of these cases occurred with ether, not one with chloroform. It only remains now to analyse these cases and to see whether there is a common cause to account for the lung trouble.

1. *The age of the patient.*—From this there is nothing to be learnt, the trouble arose at all ages. There was a case in a child, aged nine years, below which age ether is but rarely given, and another in a woman, aged 64 years, who had practically reached the upper age limit for ether.

2. *Previous lung condition.*—The history was uniformly good if we may except two previous attacks of pleurisy, one of which occurred 20 years before. In one case the patient had a cough but there were no physical signs. What is

[1] Reported in the Clinical Journal, 1900, and the Transactions of the Society of Anæsthetists, 1900, pp. 56–114.
[2] Transactions of the Society of Anæsthetists, p. 114.
[3] Ibid., p. 69.

TABLE OF RESPIRATORY COMPLICATIONS FOLLOWING THE ADMINISTRATION OF ETHER AT ST. THOMAS'S HOSPITAL, 1900.

No.	Date.	Sex and age (years).	Previous chest condition.	Operation.	Temperature 24 hours afterwards.	Nature of respiratory complication.	Duration of respiratory complication.	Condition of wound.	Remarks.
1	Feb. 5th.	M., 62	Pleurisy 20 years previously.	Colotomy for carcinoma of the rectum.	101·4° F.	Bronchitis.	12 days temperature over 101°; normal on the fourteenth day.	First intention.	No difficulty with anæsthetic.
2	March 31st.	F., 34	Good; but cough before going to theatre. No physical signs.	Whitehead's operation for hæmorrhoids.	101·0°	Broncho-pneumonia. Consolidation of the left lower lobe of the lung. Mitral stenosis on the seventh day.	Temperature normal on the fourteenth day.	,,	,,
3	May 16th.	M., 56	Good.	Inguinal hernia. Undescended testis. Bassini's operation.	101·4°	Bronchitis; not severe.	Temperature normal on the eighth day.	,,	,,
4	,, 29th.	M., 9	,,	Inguinal hernia. Undescended testis. Bassini's operation.	103·0°	Broncho-pneumonia. Report on the third day: dulness over the lower half of the left lung posteriorly, and air entry poor, occasional tubular breathing and crepitation, probably diffuse broncho-pneumonia, with possibly some fluid at the base.	Temperature normal on the seventh day.	,,	,,
5	July 9th.	M., 34	No respiratory trouble.	Pyonephrosis; nephrectomy.	101·0°	Bronchitis, broncho-pneumonia, pleurisy.	Death.	—	No difficulty. Full account of case in text.
6	,, 10th.	M., 15	Good.	Radical cure of inguinal hernia; Bassini's operation.	103·6°	Bronchitis.	Temperature normal on the fifth day.	First intention.	No difficulty.
7	,, 27th.	M., 19	No trouble in the past.	Radical cure of inguinal hernia; Bassini's operation.	102·0°	Bronchitis and pleurisy. Report on the fourteenth day: aspirated two and a half ounces of fluid drawn off. Aspiration had been advised on the tenth day.	Temperature normal after aspiration.	,,	,,
8	Sept. 6th.	M., 23	Good.	Varicose veins (extensive).	101·6°	Bronchitis definite but slight.	Temperature normal after the fourth day.	Wound was dressed on the eighth day; slight suppuration at two incisions.	,,
9	,, 12th.	F., 56	,,	Amputation of the breast and axillary glands.	103·6°	Bronchitis and cough.	Temperature normal after the eighth day.	Piece of flap sloughed, followed by suppuration.	No difficulty. Sloughing occurred after bronchitis had ceased.
10	Nov. 19th.	F., 36	Previous attack of pleurisy.	Amputation of the breast and axillary glands and above the clavicle.	102·0°	Bronchitis and sputum.	Temperature remained up for some time.	Slight suppuration in both wounds.	No difficulty. In this case there was a definite dry stage with pain at the sternum and dry cough.

more remarkable still is that where ether was given to patients with chronic bronchitis no untoward symptom arose. The cases of two patients, indeed, are worth mentioning. They were females, aged 65 and 39 years, suffering from irreducible femoral and ventral herniæ respectively. They both had an extremely well-marked history of winter cough, and, more than that, had cough with expectoration at the time of operation. They were given ether and were none the worse for it.

3. *Condition of patient at the time of operation.*—In all cases the condition was good. It has been suggested that the occurrence of respiratory complications after ether could be explained by the routine use of that anæsthetic in the cases of patients in a desperate condition. This has certainly not been our experience. There was, however, one case which would appear to support this view. The patient was a woman, aged 57 years, in bad condition, suffering apparently from carcinoma of the liver; ether was administered for an exploratory operation. Before an incision was made the woman became blue and her pulse extremely feeble. On auscultation the lungs were full of bubbling sounds. She was taken back to the wards and died in five minutes. Post mortem the lungs were found to be extremely œdematous; there were no signs of bronchitis. We have not included this case, as we felt that such a condition is sometimes due to a dying heart. The same condition has, however, been said before now to be due to the directly irritating effect of the ether. We have quite an open mind on the subject and would particularly wish for opinions on this case.

4. *The operation.*—They were all trunk cases except one which was a very extensive case of varicose veins, the operation lasting nearly two hours. They were all long cases. The "colotomy" included a long examination, the herniæ were all "Bassini's" operation for radical cure, while the breast cases had extensive gland infiltration.

5. *Behaviour of patient during anæsthesia.*—The various anæsthetists reported, when questioned on this point, no difficulty of any kind, no particular tendency to cyanosis or excessive secretion, neither did the patients require an abnormal amount of ether.

6. *Time of year.*—Seven out of the 10 cases occurred in the summer; it is certainly a question whether at that time of

year the patients, owing to freer ventilation, are not exposed to greater draughts.

7. *Locale.*—The patients were all operated on in the large theatre and afterwards taken by lifts and corridors to the wards.

8. *Experience of anæsthetists.*—All the anæsthetics were administered by house officers and not by the staff anæsthetists. The former had not naturally the experience of the latter but they could not be called inexperienced.

9. *The anæsthetic employed.*—In all the cases the ether was preceded by gas. We mentioned earlier that the gas-bag was a four-gallon one. We would suggest that owing to this excessive size the patients are given an unnecessarily large amount and the resulting cyanosis has much to answer for.

10. *Conditions after the operation.*—They were all cases that required such bandaging that of necessity the chest and abdominal movements were restricted and their powers of expelling sputum curtailed. A description of the ward, the ordinary large ward of a hospital, is, we imagine, unnecessary.

11. *Healing of wounds.*—Of the wounds of the nine surviving cases six healed by first intention. Two had slight stitch-hole suppuration, while in the remaining case, owing to the extreme tension, a piece of skin-flap sloughed and subsequently suppurated. In none of the three cases was the suppuration of such a character as to account for the temperature.

12. *Character of the respiratory complications.*—In six patients the symptoms and signs were those of bronchitis. In one case (No. 10) there was a definite dry stage lasting for the first 24 hours, characterised by hard cough, pain at the sternum, and very scanty expectoration, exactly as is usually seen in a typical case of acute bronchitis, so making this case appear to be the result of exposure. In the other five cases there was from the very first a copious expectoration. In our seventh case some pleuritic effusion occurred; it was noticed on the tenth day and two and a half ounces of fluid were drawn off on the fourteenth day. Three patients had broncho-pneumonia—one of these died, the symptoms and signs of the other two cleared up within a week, the temperature coming down by lysis. There was no case of true lobar pneumonia.

Fatal case: bronchitis, broncho-pneumonia, pleurisy.—The patient was a male, aged 34 years, suffering from pyonephrosis; nephrectomy was performed on July 9th. There was a calculus in the right ureter. The anæsthetic (ether) was given by an assistant house surgeon who experienced no difficulty in the administration. There was no past history of respiratory trouble. 24 hours after the operation there was cough, and after the operation the temperature, pulse, and respiration were as follow:—

Days.	Temperature.	Pulse.	Respiration.
1	101·0° F.	108	26
2	103·4°	124	30
3	102·0°	124	32
4	103·2°	128	36
5	103·2°	124	42
6	103·2°	128	42
7	104·0°	132	44
8	104·2°	148	50
9	104·4°	140	48
10	108·0° at death.	—	—

On the fourth day after operation the resident assistant physician, Dr. A. E. Russell, made the following note: "Respirations 52, pulse 132. Dulness at extreme right base and round angle of right scapula, here also breath sounds are tubular. Air is entering to the base of the lung and there is no evidence of emphysema. There is some pneumonic consolidation of the lower lobe, especially of its upper portion." And again on the eighth day: "The left lower lobe now involved; right lower lobe clearing up."

Necropsy.—The trachea and bronchi were much injected and contained some frothy mucus. The bronchial glands were swollen and succulent, not tuberculous. Each pleural sac contained a small quantity of blood-stained serum. There were no adhesions. The lungs were dense and heavy. Each lower lobe was partially collapsed and its investing pleura was wrinkled. Many small broncho-pneumonic patches were present in the lower and middle lobes of the right lung, with one of the size of a filbert in the inner part of the middle lobe. In the left lung the broncho-pneumonia was more extensive than in the right. Both lobes were involved but the areas were small. No abscess or tubercle was seen. The pericardium contained blood-stained serum in small quantity.

To sum up, out of some 2400 patients to whom ether had been given 10 developed temperatures with some respiratory troubles within 24 hours and all of them had inhaled gas previously to the ether. There was no previous history of bronchitis in any case and all were in good condition at the time of operation and took the anæsthetic in a perfectly normal manner. The operations were prolonged ones and with one exception the trunk was the site of operation. On leaving the theatre the patients were taken along corridors and in lifts, the temperature of which would certainly be below the temperature of the theatre, to a ward where they would have to lie for several days in a position which would probably retard, and enveloped in bandages which would certainly prevent, free expectoration.

Though under the same conditions precisely not one of the 600 patients who had chloroform developed any form of respiratory trouble. And in this connexion we would call to mind two cases reported by one of us two years ago.[4] Two patients were operated on for some bowel trouble; they both had ether and both developed ether inflammation within 24 hours. After the lapse of one month and two months respectively they underwent a far longer operation with chloroform without any respiratory complications of any kind. This freedom from respiratory troubles after chloroform is the more remarkable when we consider what a large proportion of these were mouth cases, a class of operations always considered very liable to such a complication. A contrast equally remarkable is seen in the cases of those who were operated on in the small theatres adjoining the wards, none of whom suffered from this complication. Here, it will be remembered, ether is given usually without any previous administration of gas to cases of fractures and cellulites. The period of administration is not very prolonged, but, on the other hand, a large proportion are patients in an enfeebled condition due to alcohol or sepsis; none of them receive any preparation and many of them have to put up with the same drawbacks as regards posture and bandaging as have abdominal cases.

These ward cases, then, differ from those of the large theatre in four ways: (1) the latter invariably have gas administered before the ether while the former usually have ether alone; (2) the latter operations were long and the former were short; (3) the latter were trunk cases and the former for the most part were limb cases; and (4) the latter have to traverse corridors to get back to the ward and the former are operated on in an annexe of the ward. It must be remembered, however, that the ward cases included a large number of fractured thighs which suffered the same drawbacks as regards posture and bandaging after the anæsthetic as the trunk cases.

Such are the facts which we have had to put forward. The figures are remarkable—10 cases of "ether inflammation," one of which proved fatal, out of about 2400 ether inhalations. When this investigation was begun we had no idea that such a state of things existed. We are quite prepared to be told that such a condition does not exist in this or in that hospital and we are equally prepared to decline to accept any such general statement of denial. 12 months ago, had we listened to such a paper, we would have vigorously denied the existence of such a state of things at St. Thomas's Hospital. To-day we are wiser. Unless every case is examined with the same thoroughness that our cases were no one is in a position to put forward a claim to better results. The anæsthetists never hear at all of the subsequent history of their cases; the surgeons are interested in the state of the wounds, leaving the house surgeon, who, as a rule, has not sufficient experience to connect the ether with the cough and temperature, to look after the patient's chest. Thus has been created a condition of false security.

With these figures before us we must reconsider our position with regard to ether which in the present light bids fair to oust chloroform from its place of dishonour. The death-rate from chloroform is usually considered to be 1 in 3000.

[4] Transactions of the Society of Anæsthetists, vol. iii., 1900, p. 88. Clinical Journal, August 8th, 1900, p. 253.

Our figures work out for ether at 1 in 2400[5] and are very similar to those of the London Hospital of 1897—1 in 2910—which were mentioned by Dr. Probyn Williams at the debate at the society.[6] If these figures are correct it seems to us that in preaching the greater safety of ether than of chloroform anæsthetists would be acting wrongly. We are merely changing the venue of the death from the operating-table to the bed, the house surgeon's signature for the coroner's. The chief cause of this frequent and, in cases, alarming complication, then, is ether. The contributing causes are the length of the operation, the previous administration of gas, the inexperience of the anæsthetist, and the exposure of the patient during and after the operation.

The remedies are not so obvious. Manifestly we cannot advocate the entire giving up of ether, for, after all, chloroform has troubles of its own. But we do recommend chloroform for all long operations on the trunk. We do not desire to banish the previous administration of gas but it should be so arranged that too much cannot be given by inexperienced anæsthetists and that can be best done by having the gas cylinders away from the anæsthetising-room and the gas bag of moderate dimensions, say two gallons. After the operation the patient should have the mouth and nose carefully protected from the cold air of the corridors and the ward by means of a loosely-folded towel over the face.

In conclusion, we must mention that we are deeply indebted to Dr. Russell, the resident assistant physician of St. Thomas's Hospital, who most kindly examined every case to which his attention was called. Without his assistance we could not have been so certain as we are that we have given only true cases of ether inflammation.

POSTSCRIPT.

At the meeting of the Society of Anæsthetists at which the above paper was read there seemed to be some confusion about the object with which it was brought forward. The question as to whether ether or chloroform is the most dangerous was raised from consideration of their post-operative complications. The evidence brought forward in this communication clearly demonstrated that in this particular chloroform was *facile princeps*. Most of the speakers in the discussion that followed dealt only with the dangers that are run during the administration. We have in consequence decided to add to our paper the cases in which a fatal result took place during the period of anæsthesia. One death occurred under chloroform and was that of a child who was being cleaned up after a burn. From the extent of the burn and the condition of the child, aged one and a quarter years, it was an error of judgment to have attempted such a proceeding at all. An abstract of the case is given in the St. Thomas's Hospital Reports for 1900, p. 181. Obviously it is unjust to put the child's death down to the anæsthetic. With ether we were unfortunate enough to have a death also. This was in the case of an anæmic, fat, elderly man who was suffering from an extensive and exquisitely tender cellulitis of the knee. His heart was flabby and he had albuminuria. Ether was administered in an annexe of the ward, as described above, without the previous use of gas. Some difficulty was experienced and the respirations became shallow, death occurring before the operation was begun. None of the staff anæsthetists were present. The last case is recorded in the St. Thomas's Hospital Reports, 1900, p. 179. It is not fair to either anæsthetic to put these results to their account. In our communication we have recorded one case, and probably a second, in which the fatal result was due to ether, but both these cases happened after the return to the ward and therefore out of sight of the anæsthetist or the surgeon. Our statistics on all points raise the question of the relative dangers of chloroform and ether. In conclusion, we wish especially to draw attention to the advisability of changing the anæsthetic to chloroform after a time, when ether has been given originally. The reasons for this are dealt with by one of us in the *St. Thomas's Hospital Gazette*, 1901. This is not a new procedure and many speakers referred to it as their frequent practice. As the fear of chloroform will deter many from its use and the "operative" safety of ether will keep for it many advocates we strongly recommend this change of anæsthetics.

[5] Possibly 2 in 2400 if the case recorded above is counted. Also see postscript of fatal cases added to this paper.

[6] Transactions of the Society of Anæsthetists, 1900, p. 101.

THE FEEBLE-MINDED AND CRIME.

BY MARY DENDY,

HONORARY SECRETARY OF THE LANCASHIRE AND CHESHIRE SOCIETY FOR THE PERMANENT CARE OF THE FEEBLE-MINDED.

MY object in writing this paper is to call attention to the fact that a large number of philanthropic persons are expending a great amount of time and energy and good feeling and vast sums of money in attempting to do away with evils which are only the symptoms of a widespread and constantly increasing disease. As a result of many years of work amongst the poor, of a minute attention to the condition of children in our public elementary schools and in their own homes, and of a certain amount of reading and of consideration of expert opinion, I have come to the conclusion that the main cause of most of the evils which keep so many of our people in a degraded condition is weakness of intellect. This cause would operate equally in all classes of society but that in the so-called upper classes the feeble-minded are generally guarded from the natural consequences of their defect. Even amongst these, however, the trouble is passed on by marriage, and probably some cases escape notice and account for instances which occur, otherwise incomprehensible, of descent in the social scale. Mr. Holmes, the prison missionary, tells us of one man whose parents were highly respectable, who had no motive for stealing, who was well educated and intelligent generally, but who could not help stealing watches. I know at this moment of a boy, whose father does not belong to the working-classes, who has been twice convicted of stealing; he is abnormally naughty in other ways and his brother is in an idiot asylum but no one recognises the fact that he is not responsible for his actions and he will descend in the scale of life until he is a habitual criminal. Further, weakness of intellect is in the majority of cases an inherited disease and a very large proportion of feeble-minded persons have children, either with or without marriage. There can then be no way of stopping the increase of this disease but by caring for feeble-minded persons during their whole lives.

Hooligans, or corner-lads, criminals, paupers, and drunkards—all are these frequently only because they are feeble-minded. The lying-in wards of our workhouses, idiot asylums, deaf and dumb asylums, special classes, reformatories, and industrial schools, to say nothing of the homes which are springing up everywhere as the result of private charity—all are fed by our feeble-minded population or their offspring (for it must be remembered that the child of the merely feeble in mind may be an idiot), and the managers of these refuges all fail to stem the evils with which they contend because they act on the assumption that temporary care and training are all that are needed. So after a term of years their patients are turned out again on to the world, trained to obey and to behave decently under the strict supervision of their keepers but not trained to stand alone and in many cases only more helpless that they have been kept in leading-strings so long. It needs to be understood that the feeble in mind cannot be trained to stand alone. As the lame man wants his physical crutch, so these poor creatures need their mental crutch and when that is withdrawn they inevitably fall. The more amenable they have been to good influences the more readily will they succumb to bad ones. They lack will-power and this must be superimposed from without; if it be a power for good all is well, if for evil, as it generally is, the result is disastrous.

Two years ago I made an inspection of all the children in actual attendance in the board schools in Manchester with a view to ascertain how many of them were in such a mental condition as to make instruction in special classes necessary for them. At one time there were 494 children in these schools needing such instruction out of a total of 39,600. Of these 494 children 214 were "dull and backward," it being understood that their condition was due to their state of mind and body and not to neglect, 276 were "mentally feeble," and four were deaf-mutes. I need not say that to obtain these results I did not rely upon my own opinion—in every case the child was seen by Dr. H. Ashby of the Pendlebury Children's Hospital. I further saw in their own homes 45 children who were excused from school attendance by medical certificate. A more minute analysis of these two sets of children gives the following results. Of the 494 feeble-minded children attending

school, 78 boys and 63 girls were so hopelessly defective that it would be impossible for them, in the most favourable circumstances, ever to reach a normal mental standard. Of these, again, four boys and eight girls were so imbecile that they could be properly placed only in an idiot asylum. Of those excused from school attendance there were 22 boys of this type, of whom 10 were asylum cases, and 11 girls, of whom three were asylum cases. We thus get a total of 100 boys, of whom 14 are asylum cases, and 74 girls, of whom 11 are asylum cases. Thus leaving out of question the milder cases, it is found that amongst the board school children of Manchester there are 174 children who can never be trained to take care of themselves and who must inevitably be a great danger to society. Only about half the children of Manchester attend board schools and there is reason to suppose that similar results would be obtained by an inspection of the other half who are in voluntary schools. Those children who are excused from school attendance were not necessarily worse than those going to school, but their mental or physical peculiarities either made it impossible for them to go safely through the streets or else caused them to be unmanageable in company with other children.

Last year I inspected in the same manner all the voluntary schools in a large non-school-board area near Manchester, including Church of England, Congregational, Roman Catholic, Undenominational, Methodist, and British schools. Here, again, the cases which I selected were seen by skilled medical men. We put on our list 150 out of 3000. This larger proportion was accounted for by the fact that one school received scholars from a home for waifs and strays who were all of a very low type.

It appears that there are always about three defective boys to two defective girls. This, I am told, is because all characteristics are more strongly transmitted to males than to females. The law so far recognises the existence of this class of children as to provide in a half-hearted sort of way for their education up to the age of 16 years. I say in a half-hearted sort of way because its permits but does not enforce the provision of special classes for their instruction. It defines them as "children who by reason of mental or physical defect are incapable of receiving proper benefit from the instruction in the ordinary public elementary schools, but are not incapable by reason of such defect of receiving benefit from instruction in such special classes or schools as are in this Act mentioned." The condition of some of these children is accounted for by curable physical disease—such as deafness or bad sight; of others by early neglect and bad home surroundings; of others by illness which has caused them to lose some years of school life. In these cases the extra time at school and the minute attention to their particular requirements given in the special class will suffice to bring them up to the level of the average child. But there are many more in whom the trouble is of a quite different nature and who are no nearer to being cured at the end of their school life than they were at the beginning. It must be remembered that many amongst the milder cases classified in Manchester would be incurable though the disease had not in them assumed its most troublesome form. Given, then, in any town a complete system of special classes, in those classes will be found the raw material for most of our social failures; boys and girls who are recognised as abnormal up to the age of 16 years and who are then discharged to be worked up by the pitiless machinery of our streets into the criminals, paupers, and lunatics who are the insolvable problem to all our philanthropic agencies.

Let us take examples of a few of the very numerous types of feeble-minded children and try to see what becomes of them.

R. is a gentle-tempered, obedient boy, aged 16 years. In his spare time he plays with sticks and stones like a child or at "gee-gee" with his bed-posts. He is at work, but it is doubtful if he will keep his situation because he has hurt himself with the machines. He has more than once stolen because he was ordered to do it by bigger boys who took his stolen goods from him. He will never become a "Hooligan" but he is very likely to become a thief or a train-wrecker. Quite recently the police reports contained notices of two boys convicted for attempted train-wrecking who were known to be of feeble mind. Older boys were implicated in the same charges with them. Probably R. will become a father.

T. is a lad who can do a certain amount of head-work, though he is behindhand. He is fairly strong physically and will probably be able to maintain himself after a fashion as a labourer. But he is one of that peculiarly difficult class of children who have no moral sense. He is exceedingly mischievous and shortly before I saw him he had procured a box of matches and set fire to the cloaks in the school cloak-room. Little J., again, is another boy of this kind; he is destructive to the last degree and having set his heart on achieving one particular piece of mischief (the pulling down of a piece of lead-piping from a wall) even very severe physical punishment several times inflicted would not keep him from returning to it again and again. Restless and troublesome in class, dangerous in the playground, quite unashamed, untouched by kindness or punishment, these lads will inevitably grow into the Hooligan type. L. is 20 years of age now and earns some sort of a living; he is the terror of all who have to do with him, the son of a father who was "queer," and he is an ill-conditioned, badly-built lad with a malformed head. I think he has not yet been convicted but that is only a question of time. Perhaps he is a degree better than the lad who kicks an unoffending workman to death; many people have tried to keep some hold on him. Probably all these lads will become fathers.

G. is a boy, aged 15 years, an orphan. He attended school regularly but never learned anything. He was taken on at the "shop" where his step-grandfather worked and could do what he was put to, but he was so fascinated by the leather bands going round the wheels that he could not resist the temptation to put bits of rag and string under them to see them drawn into the machinery. He was, of course, discharged. He is now in an idiot asylum and he will be discharged at the end of seven years to take his share in producing the next generation.

It would be easy to multiply cases, but these must suffice for the boys. Briefly speaking, what generally happens to feeble-minded boys of the poorer classes is this. A boy leaves school quite unable to take care of himself. Very often the one wholesome guiding influence of his life ceases with his school days, his parents being frequently only slightly stronger in mind than himself. Their one notion is to make him earn money for them. He knows no skilled work and cannot keep a situation if he gets one.[1] Then he goes upon the streets, sells matches, shoelaces, papers, and generally ends by getting into gaol. By this time he has become used to a vagrant life and as he can only move along the path of the least resistance and as it is made so much easier for him to go wrong than to go right he continues to go wrong and becomes a confirmed criminal. So he grows up through a pitiful and degraded youth to a pitiful and degraded manhood and dies, leaving behind him offspring to carry on the horrible tradition.

The following are some examples of female cases. With the girls the evil is more obvious though not more real. To begin with the moral imbecile.

S. is a girl in a board school in Manchester reported on by Dr. Ashby. She was bright at her lessons, fairly well grown, and pretty. Her father was a criminal who had deserted his wife. Her appearance was normal except for a restless expression in the eyes. She stole in the school very ingeniously, taking garments which she sold for a few pence to buy sweets. When her mother flogged her she slept out and was more than once taken home by the school attendance officer. She was quite without shame—in fact, she gloried in her achievements. When spoken to by a skilled observer it was at once obvious that her mental condition was abnormal. Dr. Ashby said: "If I were to tell a judge and jury that this girl is not responsible for her actions they would laugh at me, but if she is not put under constraint at once she must inevitably join the criminal classes." This girl would become very likely such a one as N., a girl 18 years of age, whom I knew and who was living the worst possible kind of life. I could make no impression at all upon her. Her answer to my remonstrances and offers of help was a silly laugh and "the police can't get me for anything I do." She had no conscience beyond half-a-crown and costs. She also was a rather pretty girl and did some work for her living. Going to see her mother I found that the latter was a deaf-mute. Or possibly S. might become a criminal of another type, like poor little M. who was

[1] Dr. J. Kerr, late of Bradford and now medical adviser to the London School Board, who has given much attention to the children in the special classes there, says it is characteristic of the boys that though they can do some kinds of work and generally find situations when they leave school they never keep their places and are always on the streets.

sentenced to 15 years' penal servitude for the manslaughter of her employer's children by drowning them. M. was 15 years old and would be released when she was 30. All these three girls would probably become mothers.

Fortunately, with the girls as with the boys, the morally defective are not the commonest type of the feeble-minded.

E. is a small delicate child whose mother is a deaf-mute. P., aged 12 years, is in Standard I. She cannot speak clearly, cannot see properly, and cannot carry a message. T. is an overgrown, delicate, defective girl, aged 12 years. These three girls are of a very usual type, nervous, timid, biddable children, just those who are ready to fall a prey to any evilly-disposed person who comes across them. These are the children who to a very large extent account for the child-mothers in the lying-in wards of our workhouse infirmaries. This extract from the *Manchester Evening News* of Feb. 28th, 1900, gives an example of how the trouble comes to pass: "It was stated to the magistrates at the City Police Court this morning that S. T., a girl of nearly 16 years of age, had been missing from her home since Friday morning, when she left home to go to her work but did not turn up. *As she is of rather weak intellect* it is feared she has been decoyed." It is not very long since I saw a child, aged 14 years, in the workhouse infirmary with her infant in her arms and there are few women guardians who could not give several similar instances.

The life of girls such as these is pitiable in the extreme. Year after year they return to the workhouse to bear children, many of whom fortunately die but some of whom live to repeat their mothers' experience. Year after year they become more degraded, wretched, and restless. At the present time there is in a workhouse a feeble-minded boy whose feeble-minded mother has been in and out 21 times during a year. In the same workhouse there have been during the last three years amongst the mothers of illegitimate children 16 who were of weak intellect. Nor do the girls who come under notice in this way represent nearly all of their class; very many are confined at home and it is a marvel that more do not die merely from the hardship of their conditions. In one house to which I went to inquire for a feeble-minded boy I found also his sister, a woman 35 years of age, of weak intellect and deaf, nursing her third illegitimate child.

This disease, moreover, as things are at present is no bar to marriage. I know of a woman, aged 28 years, who was married at 16 years to a notoriously half-witted man. She "did not know he was silly" when she married him. She is very ill and evidently has some serious internal complaint which will soon kill her, when her husband will be at liberty to marry again. She has had 10 children, of whom she has "buried eight," as the phrase goes. The remaining two are feeble-minded, the elder, a girl aged 13 years, in a marked degree. In all probability this child will be a mother before long. Mr. Holmes, from whose book I quoted above, tells me that many children of weak intellect are committed to reformatories, certified as "fit" because the medical man who has had them under observation has seen them only under such control as prevented their mental peculiarities from showing themselves. Frequently when these children have been a little while in their new homes the unfitness becomes manifest and because there is no provision for them under the same roof with sane children (indeed, there hardly could be such provision) they are discharged, to come again upon the streets and again to be convicted. In this way he has known the same boy to be twice committed to a reformatory within six weeks.

Anyone who reads the police reports must be struck by the number of apparently purposeless crimes that are committed. It is not to be wondered at when we realise how large the proportion is of the "borderland" or semi-insane intellects. Recently a case was reported of a woman who was convicted for the fortieth time. It was added that she was known to be of weak intellect.

Mr. Holmes states that many, the notorious Jane Cakebread among them, who are treated as habitual drunkards are really not dipsomaniacs but are not quite sane. He says: "These people are not what they are because they drink but the reverse: they drink because they are what they are. In a word, drunkenness is not the cause but the result of their condition. Doctors will not, of course, certify them to be insane; until, therefore, the State makes some provision for the half-mad their case is hopeless and frequent tragedies will continue."

As to the immediate suffering and degradation that are due to this disease there can be no doubt. The most horrible house which I ever entered was one to which I went to inquire for a child excused from school attendance. He was brought to me from his bed, his clothes having been pawned as soon as it was known that the attendance officer would not call. It was impossible to unravel the relationships in that family, but there were, I think, three generations of weak-minded persons there; certainly there was an elderly woman of whom it would be difficult to say whether she was most bad or mad, a woman aged 23 years and a boy aged 14 years who were nearly idiots and the little lad on whose account I went. But all this suffering and degradation, terrible as it is, is insignificant compared with the misery we are heaping up for future generations. It has been urged as a reason against taking steps to counteract the evil that if we would let weak-minded persons alone they would die out. Unfortunately that is not so. They die young, it is true. The average life of an idiot is only 20 years. The feeble-minded seem to be generally short-lived in proportion to the degree of their mental weakness. It is rarely, indeed, that children who are weak in mind are strong in body. There seems to be a connexion between congenital deaf-mutes and these children. They are peculiarly susceptible to disease, particularly to consumption, and succumb more readily than normal persons to epidemics. But a great number of them live to have families and their offspring are often more feeble in every way than themselves. This would point to the conclusion that they would in course of time die out, but unfortunately they are not left to themselves: the strong and bad mix with the weak and mad, and so the horrible story goes on and there are always enough accidental cases to renew the strain.

It would be easy to multiply cases and instances in support of what I have said but it is unnecessary. After all, everyone who is acquainted with the sin and misery of our social life has knowledge of one aspect or another of the "feeble-minded problem" and could supply evidence of the existence of the evil. What I am concerned to do is to point out the fact, which many people seem to shrink from recognising, that there is no way of curing this disease in the individual and that the only way of putting a stop to it is to prevent its transmission to the future by careful segregation of the sufferers from their early childhood to their death.

It is grievous to consider the pitiful waste of time and goodness, skill, and money which is involved in treating this trouble temporarily, where it is recognised as existing, and in attempting to cure its symptoms, drunkenness, vice, and crime of every description, where it is not recognised. There is a deplorable futility in convicting a feeble-minded woman forty times, a deplorable loss of power involved in forty times putting all the machinery of the law in operation for one poor creature who was not responsible for her own actions and who should have been placed in happy safety before she was of an age to be dangerous to herself or to society.

It is sad to remember, too, how many charitable agencies are wasting their powers because they do not understand that it is impossible to "rescue" the weak-minded unless it is done once for all. People who deal with these children and see them under control behaving in decent and orderly fashion and generally accepting good habits are apt to forget that the control, and that alone, is the cause of the good behaviour, that so soon as this control is removed the patients are likely to succumb to any other influence which may be brought to bear.

So long ago as 1875 a special committee of the Charity Organisation Society summed up its report thus: "After the period of training a few may be discharged as cured and will become merged in the mass of the population. A large number may be employed as they often are now [employments specified 'at home,' 'in asylums,' &c.]. But, *after making all these deductions* a large proportion of the young persons who have passed through the training schools will prove unfit to be restored to society even under these modified conditions, and for these adult custodial asylums must be maintained at which they may be permanently cared for in the most economical manner, with the advantage of constant medical supervision. But such is the sustaining, healing influence of regular employment that even the adult asylums ought, as far as possible, to be managed on the principle of industrial establishments, having gardens, farms, and workshops of various kinds connected with them to one or other of which every patient capable of doing anything should be attached. Such a

system properly carried out would diminish the expense of the institutions."

In connexion with this admirable suggestion it must be remembered that the feeble-minded person can never become wholly self-supporting. As the late Sir Douglas Galton said, he is in the most favourable circumstances worth only three-fourths of a man. But in the least favourable circumstances he is worth considerably less than that. Putting aside for the moment the question of his own happiness or misery, it would be far cheaper to provide for him by supplementing his own earnings in an industrial home than to keep him as a criminal or a pauper.

The thing can be done and now is the time to set about doing it. It is well known that these children, so long as they are children, are exceedingly persuadable and affectionate, and that they readily attach themselves to places and persons. When they have once become habituated to the life of the streets, when they have become parents they are much more difficult to deal with, are restless and uneasy and anxious for change and for the excitement which they have once tasted. The special classes provided under the Elementary Education (Dull and Defective Children) Act give us the first step necessary towards the permanent care which alone can be effectual in such cases. Children who are acknowledged to be fit subjects for special education in the sense determined by this Act should be under careful medical observation for the last few years of their school life with a view to ascertain whether they are really suffering from mental incapacity. If they are they should immediately on leaving the day school (and in some cases before the time for their doing so has arrived), without any disastrous interval spent in learning the lesson of the streets, be transferred to a boarding school and thence again to an adult school, in which they might remain, working and playing, all their lives, children to the end, but happy harmless children, instead of dangerous and degraded ones.

IMPROVEMENTS IN THE OPERATION FOR THE RADICAL CURE OF INGUINAL HERNIA BY THE USE OF SOME NEW INSTRUMENTS AND GOLD-WIRE SUTURES.

BY PROFESSOR IGINIO TANSINI,
DIRECTOR OF THE SURGICAL CLINIC IN THE ROYAL UNIVERSITY OF PALERMO.

IN the operation for the radical cure of hernia the most careful attention to aseptic precautions is absolutely essential. It is an operation of great practical importance and it is now very frequently performed but its success is not rarely endangered by the occurrence of slight suppuration, while if the suppuration is extensive the result is a complete failure. This suppuration is in the majority of cases due to the use of silk or catgut as sutures. Silk is the better material of the two, for it is less readily absorbed and more easy to sterilise than is catgut, but in spite of very careful sterilisation silk is nevertheless found to cause suppuration in a large percentage of cases. Suppuration sometimes occurs early, even within the first 10 days after the operation; sometimes, on the other hand, it is postponed and a perfectly successful operation in which primary union has been obtained is followed by suppuration after the lapse of even six or seven months. In the first case there is at least some risk of failure and relapses are possible, and since the patient's stay in bed is prolonged he is apt to imagine that the surgeon is directly responsible for the mishap.

The circumstance that suppuration may follow healing by primary union, and may in fact not show itself until many months after a most successful result has been obtained, proves that the suture material has either been imperfectly sterilised or that it possesses some property, chemical or physical, which is capable of exciting suppuration or of acting as a focus of infection conveyed through the blood. Relapses are the consequence of this defect, and relapses sometimes occur even after healing by primary union without any remote suppuration. Many attempts have been made to find a substitute for silk. Silver wire has been suggested and as it is inadvisable for the wire to be left in the wound removeable sutures have been devised, but these latter have for good reasons found little favour with surgeons: (1) because they are more difficult of application than are the ordinary sutures; and (2) because if they are removed in 10 or 12 days the support is withdrawn too soon, while if they are left longer in position the duration of the treatment is correspondingly increased. In order that silver wire may have sufficient strength it must be of considerable thickness, and it is then open to the objection that in passing through Poupart's ligament it weakens it materially.

I recommend the use of gold as a material for sutures, for this metal may be drawn into wire which is not only finer than silk but is also stronger and more flexible. With such a wire it is as easy to apply sutures as with silk and it cannot do harm as a foreign body. The suture is fixed by twisting the ends three times and this requires less time than tying a silk suture. Using this suture and the new instruments to be presently described I have performed the radical operation for inguinal hernia within 10 minutes.

In performing Bassini's operation for inguinal hernia, or a modified Bassini, I use thick wire for the deep sutures and much thinner wire for the aponeurosis of the external oblique muscle; for ligaturing the neck of the sac I use the same wire as for the deep sutures and for suturing the sac, if necessary, I use the same wire as for the superficial sutures. The ends of the deep sutures are seized with dissecting forceps and turned into the thickness of the internal oblique muscle; the ends of the superficial sutures, which are very thin, are left as they are. After making many experiments with a view to find the most ductile alloy and the smallest possible size of wire I was at last successful, thanks to the energy and assistance of the firm of Messrs. E. De Amici of Via San Sepolcro, Milan. The cost of the wire may at first sight seem to be high but in actual practice the result is an economy. The gold which remains in the patient's body weighs only from 12 to 60 centigrammes (from two to 10 grains); the ends of the wires can be preserved, re-melted, and used over again. Moreover, the surgeon may rely on there being no suppuration, especially if along with the gold wire he uses my instruments to be described presently. The patient is not kept in bed more than for eight or 10 days, and there is only one dressing in order to remove the sutures inserted in the skin, which sutures may if desired be of silk. Silk, however, is not in itself a cheap material, a good deal is required each time that it is used, and much is apt to be wasted. In order to avoid the necessity of leaving ligatures in the wound I now use torsion for the vessels and I obtain perfect occlusion of them by leaving the artery forceps in position till the end of the operation.

Of late years surgeons have given a great deal of attention to the subject of disinfection of the hands, but there are many points in connexion with it which still remain undecided. Gloves are not always worn. At an operation the surgeon has always more misgivings about the disinfection of his assistants' hands than about that of his own, for he can avoid coming in contact with obvious sources of infection and can choose the day of operation; but, on the other hand, his usual or occasional assistants, from the nature and variety of their occupations, have more difficulty in keeping their hands clean, so that any device which would obviate the necessity for the assistants to touch the wound would be a great step in advance. With the instruments which I have made there is no need for the assistants to touch the wound during an operation for inguinal hernia and the work of the surgeon is also in some degree facilitated. In performing Bassini's operation and other similar operations for inguinal hernia I was often not quite satisfied with my assistants, especially with respect to the retraction of the edges of the incision in the aponeurosis of the external oblique muscle and with respect to the depression of the floor of the wound with a view to the easy application of the sutures. It was also requisite for me to have two assistants, one of whom had a hand fully occupied with retracting the spermatic cord.

I have now been using my new instruments for more than a year. The spermatic cord is intrusted to a hook (Fig. 1) which by its own weight and without being held by anyone keeps the cord out of the way of the sutures, and the handle of the instrument, on account of its curve, remains close to the surface of the body. The edges of the aponeurosis of the external oblique muscle which used to slip from the ordinary

hooks or from the fingers of the assistants and were sometimes inadvertently included by the needle are now held wide apart and are well protected by two special hooks

FIG. 1.

Hook for spermatic cord (actual length nine inches).

(Fig. 2) which act automatically and by their curve do not get in the way. The spatula (Fig. 3) serves also to depress perfectly the floor of the wound and to prevent the point of

FIG. 2.

Retractor (actual length about 10 inches).

the needle from sinking into it; it thus facilitates passing the needle through Poupart's ligament. It also has a handle of such a length and shape that the hand of the assistant who holds it is some distance from the field of operation.

FIG. 3.

Spatula (actual length 12 inches).

As evidence of the value of the gold-wire sutures and of the usefulness of the instruments now described the following statistics may be quoted. My operations always included a fair proportion of successes, but before I devised these instrumental aids I had in every 20 cases to deplore one of either early or late suppuration and one relapse in every 70 cases. Now, however, operating in the same place and with the same assistants, out of 150 consecutive operations for the radical cure of hernia, of which not a few were of a serious nature either from their size or from adhesions or from the age of the patient, I have uniformly obtained healing in eight days without any suppuration, early or late, and without a single relapse.

Palermo.

BRISTOL CITY LUNATIC ASYLUM, FISHPONDS.—The forty-first annual report of the Visiting Committee of the Bristol City Lunatic Asylum which has just been issued states that at the end of 1901 the patients numbered 905—viz., 391 males and 514 females, compared with 814 patients (369 males and 445 females) at the close of 1900. The committee adds with regret that it has been necessary to grant Dr. H. A. Benham, the medical superintendent, six months' leave of absence owing to ill health.

A CASE OF PERFORATION OF THE RECTUM INTO THE PERITONEAL CAVITY; LAPAROTOMY; SUTURE; RECOVERY.

BY G. R. TURNER, F.R.C.S. ENG.,
SURGEON TO ST. GEORGE'S HOSPITAL.

A YOUTH, aged 17 years, was admitted into St. George's Hospital on April 17th, 1901, at 4.30 P.M. He said that he was trying to vault over a broomstick and he failed; the broomstick passed up into his rectum, tearing a hole in his trousers and causing much pain and hæmorrhage. On withdrawal the broomstick was covered with fæcal material for about two inches. He was taken to the hospital collapsed and suffering from much pain. He was pale and shivering and vomited three times in the surgery. He was examined by Mr. T. C. English, the house surgeon (to whom I am indebted for these notes), who found a tear of the anus about one inch posteriorly which passed up the posterior wall of the rectum for a short distance. He also thought that he could feel a rent of the anterior wall. The mucous membrane beyond was smooth and fæces were present some three inches from the anus. The examination was difficult and indefinite owing to spasm and pain. The patient was admitted into the hospital and about 10 P.M. he vomited again; there was now much hypogastric pain. The abdomen, which was rigid on palpation, moved well on respiration. I was sent for and at 11.30 P.M., eight and a half hours after the accident, an anæsthetic was given and a rectal examination in the lithotomy position was made. There was an extensive tear of the anterior wall of the rectum which passed through the recto-vesical fold of the peritoneum into the general peritoneal cavity. A sound passed through the rent was found to touch the anterior abdominal wall. There was also a wound of the rectum continuous with the tear of the anus posteriorly.

It was decided to perform laparotomy and, if possible, to suture the rent. A four-inch incision was made above the pubes, fæcal matter and foul fluid being found in the peritoneal cavity. After much difficulty a transverse rent two inches long was found in the peritoneum between the bladder and the rectum, the serous coat being stripped off the posterior wall of the bladder. The examination was aided by an assistant's finger in the rectum. By pulling on the bladder and by the aid of long clips the rent was eventually brought sufficiently near to the surface to admit of suture with catgut. This was effected by long curved needles on handles and a cleft-palate rectangular needle. The peritoneum was carefully cleaned by sponging both before and after suture of the rent and subsequently this neighbourhood was gently irrigated with warm water. The irrigation was not permitted to be more than a local one. A large glass drainage-tube was inserted and some strips of cyanide gauze were passed down to the peritoneal aspect of the rent. Another large tube was introduced into the rectum beyond the tear of the bowel.

The following are the notes of the progress after the operation. On April 18th the patient was doing well. There were no signs of peritonitis. No pain or vomiting was present. The pulse was good. The wound was dressed; much serous fluid came away from the drainage-tube. On each of the two following days the wound was dressed. The patient was doing well. There was slight serous discharge and some of the gauze plugging was removed. On the 22nd the wound was dressed, all the gauze plugging was removed, the glass tube was withdrawn, and a smaller india-rubber tube was inserted. Nothing came away from the rectum. On the 24th he was made to lie on his face to facilitate drainage. On the 26th a little flatus was passed by the abdominal wound. On May 1st the tubes were removed. The bowels had not acted since the operation. He was given half an ounce of castor oil. On the 2nd about one and a half ounces of fæcal material came through the abdominal wound. On the 3rd (16 days after the operation) more fæcal material flowed from the wound and a normal motion was passed by the bowel. On the 4th there was less discharge from the wound. The stitches were removed. On the 5th there was a normal motion by the rectum. On the 7th he passed a

normal motion. The wound was healing well. A slight but not foul, discharge came from the abdominal wound. On the 20th the wound had firmly healed and the patient was up and about. On the 30th, on examination the whole of the rectum was found to be healed and the rectal wall was quite smooth all round. On June 9th the patient was discharged. The temperature for a week after the operation was 99·2° F. at night, otherwise it was normal throughout.

I have been unable to find any case quite similar to this one. Fæcal extravasation into the peritoneal cavity following perforation of the rectum is a rare condition and I know of no case that has been successfully treated by laparotomy. Some years ago I operated on a case of perforation of the rectum and bladder by a branch of a tree. The patient was a boy who whilst climbing a tree fell and staked himself. I did not see him until more than 12 hours after the accident and although I was able to sew up the bladder rent I found his small intestine was also injured. He survived the operation about 24 hours. I attribute the recovery in the case related above mainly to the gauze packing and drainage and to our successful attempts to limit the contamination of the peritoneum to the parts immediately around the wound of the rectum. The suture of the rectal wound was very difficult. The stitches had to be put in as best one could and it was not at all certain that they were confined to the serous and muscular coats.

Half Moon-street, W.

A SHORT NOTE ON THE USE OF LINEN SEWING-MACHINE THREAD FOR LIGATURES AND SUTURES.

BY ARTHUR E. J. BARKER, F.R.C.S. ENG.,
SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

THE question what ligatures and sutures it is best to employ in any given case is one which must often engage the attention of all surgeons of any large experience. A mere glance at the list of materials employed at different times for the purposes in point must convince anyone that there is still a difference of opinion as to which is best. Most of us have, I suppose, in former times used the old hempen thread and silver wire, then catgut in all its forms, also kangaroo tendon and ox aorta, as well as silk of different kinds, silkworm-gut and horsehair, and, finally, celluloid hemp. Each has been shown to have its advantages but with each there is some drawback. The object of these few lines is to draw attention to a material certainly not new but which probably for its very commonness appears to have been but little used either as a ligature or suture material and which after an experience of nearly two years I find to possess many merits. This is *linen* thread now made for the ubiquitous sewing-machine of the tailor and seamstress. I have used this now in a very large number of cases during the last two years, indeed, almost exclusively and I find it to possess the following good points. In the first place, it can be procured everywhere all over the world wherever there is a depôt for Singer's sewing-machines for which, I believe, it is specially spun. It is relatively very cheap. It can be easily sterilised by boiling in plain water and then stored in methylated spirit. It is enormously strong and ties a most uncompromising knot. It is easy to work with and runs through the eye of any suitable needle easily, having been spun with special care in order to travel evenly through the sewing-machine needle. I have used several sizes and now limit these to three—viz., No. 40, which is as thick as need be desired for the abdominal wall or ligature of the larger arteries; No. 60, which is thinner but still very strong; and No. 90, which is as fine as can be desired, say, for a suture of the intestine. I find it convenient to procure No. 40 as a white thread, No. 60 in red, and No. 90 in black. I have prepared it by simply boiling it for an hour in ordinary water and then keeping it in spirit. A little of the dye comes out of the finer sizes in boiling but does not appear otherwise to alter the thread which can be boiled over and over again without rotting it.

One of the greatest tests of such a thread, to my mind, is an enterectomy or a gastro-enterostomy, and here I have given it a wide trial and have not yet known it to behave in any but the most satisfactory manner. Many of my patients are now going about with it in both stomach and intestine. But where it can be seen in the skin, as, for instance, in the long wound of a breast amputation, its non-irritating nature can be studied *where it has not been tied too tight*. It comes out at the end of 10 days or so just as it went in.

I cannot help thinking that to those who work in out-of-the-way places and who often find it difficult to obtain the usual traditional materials of good quality this *linen* thread will prove a boon. It probably is not absorbed at all but appears to be none the worse for this. Cotton thread is not strong enough in my experience for surgical ligatures and, moreover, rots if much boiled. But this *linen* material is different and the flax fibre of which it is made is long and very smooth.

Harley-street, W.

MENINGO-ENCEPHALOCELE.

BY EDGAR DU CANE, B.A., M.B. R.U.I.

AN infant, aged three and a half days, with a tumour in the occipital region, was brought to me by the midwife for operative treatment. The mother, aged 35 years, had had five healthy children at full term and one still-born, the cause being unknown, and the present child was born after an interval of 10 years. No particular difficulty appeared to have occurred during labour and apart from the tumour the child appeared well-nourished and to have been born at full term. The tumour was found to be two-thirds the size of the child's head, globular in shape, and connected with the occipital region by a large circular peduncle covered with hair. The skin at the posterior portion was much thinner than elsewhere, being practically only membrane. Pulsation occurred when the child cried and besides the presence of fluid, evidenced by fluctuation, there were some solid contents. The connexion with the cranial cavity seemed to be between the centres of ossification of the occiput. I diagnosed the case as one of meningo-encephalocele and having explained to the parents the probability of a fatal termination whether an operation was performed or not I proceeded at their request to remove the tumour.

Having rendered the parts aseptic I aspirated four ounces of fluid and then, dissecting the skin back from the membranes, I separated each layer in the manner of treating a strangulated hernia and finally came upon the posterior portions of both occipital lobes. As these could not be returned into the cranial cavity I carefully excised the protruding portions which on examination proved to be immediately behind the angular gyrus. Bleeding vessels were tied or twisted, membranes were removed, and the edges of the membranes were stitched together; the skin was sutured and a firm pad of antiseptic gauze was applied. The child cried, took the breast, passed urine and defecated naturally, and presented no signs of paralysis and no convulsions. The wound healed rapidly without suppuration and only on the third day was there any rise of temperature, when it reached 100° F., falling on the same night. After 14 days of uninterrupted progress the child had a convulsion and finally died 16½ days after the operation.

The post-mortem examination showed almost complete cicatrisation of the cerebral lesion, but the brain was adherent to the membranes and the latter to the operation wound. There were no pus and but little fluid in the cranial cavity nor was there any great distension of the ventricles. Apart from the cicatrisation extensive congestion was absent.

My reasons for operating were as follows. 1. The disease, if left alone, is usually speedily fatal.[1] 2. Dr. G. A. Wright of Manchester[2] says that "attempts have been made to excise the tumours with sufficient success to encourage further trials in selected cases." 3. Dr. D. Ferrier[3] states that "though the occipital lobes are included in the visual centres it is nevertheless a remarkable fact that they can be injured, or cut off bodily, almost up to the parieto-occipital fissure on one or both sides simultaneously without the slightest appreciable impairment of vision." He further

[1] Erichsen: ninth edition, vol. ii., p. 556.
[2] Ashby and Wright: Diseases of Children, fourth edition, p. 571.
[3] Functions of the Brain, second edition, p. 273.

adds[4] that "Horsley and Schäfer inform him that the results of removal of the occipital lobes in their experiments entirely harmonise with his as to the completely negative effect of this operation on the animal's visual and other faculties." Schatz[5] records a cure in three cases by constricting the peduncle with clamps. Dr. Wright[6] excised an occipital meningo-encephalocele in which a piece of the cerebellum of the size of a walnut was removed. The child recovered though it developed hydrocephalus after the operation. Sir Eric Erichsen[7] mentions a case in which a portion of the brain—whether cerebrum or cerebellum is not stated—was sliced off, the patient surviving, but he gives no further particulars and no reference to any records of the case. Mr. T. R. Jessop[8] of Leeds records a successful case of excision but there was no protrusion of cerebral substance or distinct communication with the cranial cavity. Professor T. Annandale[9] in a case where sloughing of a portion of the tumour was taking place ligatured the peduncle and removed the tumour, the child recovering completely in spite of an attack of measles. Dr. Wright in a private communication to me says that "so far as he remembers the other cases he has operated upon have all been meningoceles only."

I feel that the partial success attending operative measures in this case would justify me in again attempting removal in a similar case.

Swindon.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN

Nulla autem est alia pro certo noscendi via, nisi quamplurima2 et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

A CASE OF PERFORATED DUODENAL ULCER; CŒLIOTOMY; RECOVERY.

(Under the care of Mr. R. H. LUCY.)

THE diagnosis of duodenal ulcer is often extremely difficult. It is certainly more common in men than in women; according to Krauss's statistics nearly 10 cases occurred in men for one case in a woman (58 cases to six). In the following instance the sex of the patient and the fact that the abdominal rigidity was specially marked to the right of the middle line pointed to the perforation being situated in the duodenum rather than in the stomach. The differential diagnosis, however, is not of any great importance when perforation has occurred, for laparotomy must be performed in either case. Especially noteworthy in the case recorded below is the fact that after recovery from the operation the patient was no longer troubled by the dyspeptic symptoms from which he had suffered for two or three years.

A horse-driver, aged 61 years, was lifting some poles on to a wagon in the afternoon of Jan. 10th, 1898, when he felt a severe sharp pain about one inch above, and to the right of, the umbilicus. He walked home, put up the horses, and about 5 P.M. commenced "to cry and groan" with pain and vomiting set in. For two or three years previously he had suffered from pain at the close of nearly every meal and for his own comfort kept to "slops," but he had never had hæmatemesis or melæna. His wife considered the present attack to be an aggravation of his dyspepsia but eventually called in Mr. C. H. Stevens of Plympton who sent the man into the South Devon and East Cornwall Hospital under the care of Mr. R. H. Lucy about noon on the following day.

On admission the upper abdomen was very rigid and tender (though retracted), particularly to the right of the middle line. As the signs and symptoms pointed to duodenal perforation having occurred some 20 hours before Mr. Lucy opened the abdomen in the middle line and found turbid bile-stained fluid. On searching a small punched-out ulcer in the second part of the duodenum was found and was with great difficulty sutured transversely with Lembert sutures of fine silk. The right kidney pouch and the under surface of the liver were cleansed of fluid and lymph but a drain was not employed. The parietes were united with great difficulty owing to the tautness of both recti which persisted even under deep anæsthesia. The patient made a good recovery and was last seen on Jan. 19th of this year, just over four years after the operation. He was then well and hearty, was able to do a hard day's work, had put on flesh, and could "eat anything" without the slightest discomfort, though absolutely edentulous, and the bowels acted naturally every day. Unfortunately the scar had given way and there was a large ventral hernia with wide separation of the recti, but it was perfectly reducible and with the wearing of a stout belt he suffered no inconvenience.

Remarks by Mr. LUCY.—Judging from Mr. B. G. A. Moynihan's paper in THE LANCET of Dec. 14th, 1901, p. 1656, and the cases reported by Dr. Cyril Ogle and Mr. A. Marmaduke Sheild in THE LANCET of March 29th, p. 890, the notes of the above successful operation (for which I am mainly indebted to our late house surgeon, Mr. J. Dill Russell) may be of value. The points of interest are, I think, as follows: (1) the history of indigestion at the close of meals but never any hæmatemesis or melæna; (2) the fact that the patient *walked* home nearly half a mile and put up his horses without help and did not take to his bed for one and a half hours after the perforation had occurred; (3) the actual retraction of the epigastrium some 19 hours after extravasation of duodenal contents and the rigidity of the right rectus when compared with the left muscle; and (4) the difficulty experienced in suturing the parietes with the subsequent giving way of the scar is a result which determines me now when opening the abdomen above the umbilicus to enter between the separated fibres of one or other rectus.

[4] Op. cit., p. 276.
[5] Berliner Klinische Wochenschrift, 1885, No. 28, p. 371.
[6] Op. cit., p. 572.
[7] Op. cit., p. 566.
[8] Brit. Med. Jour., Dec. 30th, 1882.
[9] Erichsen, vol. ii., p. 566.

PLYMOUTH BOROUGH ASYLUM.

A CASE OF PERFORATING GASTRIC ULCER; LAPAROTOMY; RECOVERY.

(Under the care of Dr. W. H. BOWES and Mr. R. H. LUCY.)

THE percentage of successes in the operative treatment in perforation of gastric ulcer is steadily increasing with the increasing early recognition of gastric perforation. Unfortunately it is often very difficult to diagnose a gastric ulcer in the absence of hæmatemesis, otherwise perforation might be rendered rarer than it is at present. The following case demonstrates the importance of keeping the stomach empty in the interval between diagnosing gastric perforation and the operation. In all cases of perforating gastric ulcer it is desirable that bacteriological examination should be made of the peritoneal contents, for the issue of the case must depend in no small degree on the form of microbic infection present.

A nurse, aged 25 years, with a history of 18 months' indigestion, was taken with sudden pain and "a feeling of something having burst inside her" at 5.30 P.M. (after a meal of tea and fried potatoes) on Dec. 17th, 1901. At 7 P.M. she went to bed and on her own initiative took a draught containing 20 grains of chloral and 20 grains of potassium bromide. Becoming worse she was seen by the medical officers at 9.30 P.M. who found her collapsed, in excruciating pain, with rigid abdomen and great epigastric tenderness. She had vomited slightly (no blood) twice. A perforating gastric ulcer was diagnosed; a hypodermic injection of morphia was given, turpentine stupes were applied, and she was ordered to keep as still as possible and not to take anything by the mouth. On the morning of the 18th Mr. R. H. Lucy was asked to operate. At 10.30 A.M. the abdomen was opened through the left rectus muscle and on incising the thickened vascular parietal peritoneum gas escaped freely, together with bile-stained mucus. An ulcer three-sixteenths of an inch in diameter was found on drawing down the lymph-coated anterior stomach wall in the line of the parietal incision and

half an inch below the margin of the liver. The perforation was closed with eight or nine Lembert sutures of silk, the left kidney pouch was carefully dried out, and the omentum and transverse colon were cleansed and replaced. For 60 hours after the operation nothing was given by the mouth. Nutrient and saline enemata relieved the thirst. Fluid diet was then commenced with two-drachm doses half-hourly of milk-and-water and gradually increased. Light farinaceous (Benger's) food was first given on the 25th and after that date she gradually advanced to ordinary rations. On the 22nd for a few hours there were severe pain and collapse. There was some foul suppuration around the skin sutures for which chinosol fomentations were used. The sutures were removed on the ninth and tenth days. The patient left her bed on Jan. 1st and returned to duty on Jan. 18th. She is now in excellent general health and has not had indigestion since the operation.

Remarks by Mr. LUCY.—The foregoing case is of interest as showing the value of early accurate diagnosis and the effect on the post-operative progress of withholding strictly everything by the mouth when perforation is once diagnosed. The history of precedent dyspepsia, a tender epigastrium, and occasional vomiting, together with the sudden onset of pain and collapse, the rapid thoracic respiration, tympany over the whole liver area, but marked dulness in the left hypochondriac and lumbar regions, all made up a clinical picture of sudden gastric perforation. Cœliotomy was performed about 17 hours after perforation and the ultimate good result was largely due to the withholding of all oral feeding by Dr. Bowes and Dr. H. B. Wilkinson. The absence of hæmatemesis here (as in all perforating cases that I have so far seen) is noteworthy.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tropical Abscess of the Liver.

THE following concludes our report of the meeting of this society held on May 13th (*vide* THE LANCET, May 17th, p. 1397).

Dr. PATRICK MANSON, in discussing Mr. RICKMAN J. GODLEE'S paper on Tropical Abscess of the Liver (which is published at p. 1452 of our present issue), said that the operation he had suggested—namely, plunging in a trocar and inserting a drainage-tube through it, was only suitable for ordinary use or in tropical countries where experienced surgeons were not so plentiful. It was a simpler operation. He would like to ask why it was that abscesses in the upper part of the liver extended the liver dulness upwards instead of lowering the liver as a whole. He doubted if the escape of a little pus into the peritoneum in these cases was attended by very great danger.

Dr. A. CROMBIE remarked that he had been treating cases of hepatic abscess for 30 years. It was the practice in India to use Dieulafoy's aspirator and in small abscesses this was sufficient and the patient recovered. Even in larger abscesses one or two such operations were sufficient. In one case he had aspirated 14 times and the case resulted in recovery. He thought that all suitable cases should be treated in this way, at any rate in the first instance. In all his cases he had never found it necessary to stitch the liver to the wall before opening the abscess. He quite agreed with Dr. Manson that no damage resulted, as a rule, from the leakage of pus into the peritoneum.

Mr. JAMES CANTLIE had used Dr. Manson's trocar in 34 cases in all and thought that its convenience was very great; very often the surroundings of such cases were very unfavourable. The danger of hæmorrhage from a hepatic vein was also obviated in this way. The drainage-tube should be an indiarubber one.

Dr. W. G. ROCKWOOD had operated on upwards of 100 cases in 25 years. He had employed the method suggested by Dr. Manson many times. In his earlier cases he aspirated. He sometimes found it necessary to aspirate a second or third time. Lately it had been his practice to excise a portion of the rib.

Mr. GODLEE, in reply, said he was bound to confess that he had not seen any very serious consequences from the escape of the pus into the peritoneum, but on one occasion the patient had some pain which might have been produced in this way when the liver was not stitched to the abdominal wall. As regards aspiration this suggestion had been made in cases of empyema, but sooner or later they always needed a more complete operation.

PATHOLOGICAL SOCIETY OF LONDON.

Infective Lesions of the Tongue, Stomach, and Intestines in Addison's Anæmia (Pernicious Anæmia).—Joint Lesions in Hæmophilia.—Congenital Atresia of the Small Intestine.—Fibrinous Cast of the Gall-bladder.—Hæmorrhage into the Adrenal Bodies.—Disseminated Carcinoma simulating Tubercle.—Annual General Meeting.

A MEETING of this society was held on May 20th, Mr. W. WATSON CHEYNE, C.B., the President, being in the chair.

Dr. WILLIAM HUNTER made a communication on the Infective Lesions of the Tongue, Stomach, and Intestines found in Addison's Anæmia (Pernicious Anæmia). This paper (which was illustrated by a lantern demonstration) was an extension of the researches previously recorded.[1] The present results were based upon 25 cases of pernicious anæmia which had come under his (Dr. Hunter's) observation during the past two years. In pernicious anæmia (the disease described by Addison in 1855) there was a hæmolysis which was not found in the numerous other varieties of anæmia described by various authors and which were attributed by them to a great variety of causes, such as poverty, ulcer of the stomach, ankylostomiasis, hæmorrhages, &c. Sepsis alone was incapable of giving rise to true pernicious anæmia, for in septic anæmia there was no evidence of hæmolysis in the liver. The evidence on which Dr. Hunter's conclusions had been based was of three kinds—(1) the prevalence of oral sepsis (gingivitis, decayed teeth, &c.) in connexion with the disease; (2) the existence in these cases of a subacute infective gastritis as one result of long-continued oral sepsis and mucoid vomit containing streptococcus longus; and (3) the occasional prevalence of infective lesions in the mucosa of the alimentary canal, probably having a similar origin. The present communication was based on the bacteriological and histological examination of the 25 cases recently observed. Necropsies had been performed on seven of these, from which 1145 sections had been made and some 250 cultures had been made. A peculiar form of glossitis had been found in every one of the 25 cases. Special observations had been made on the tongue, clinical and anatomical. There was great thinning of the mucosa which in places was quite wanting, so that the lymphatics of the tongue were practically in direct continuity with the buccal cavity. It was this thinning of the mucosa which produced the glossy condition of the surface of the tongue which Dr. Hunter regarded as quite peculiar to the disease. He had obtained pure cultures of streptococcus longus from the lymphatics of the tongue. These had been injected into mice and killed them in six or seven days. The only other disease in which anything resembling this condition of tongue was psilosis, but Dr. Hunter was not sufficiently familiar with the latter disease to speak definitely. In the stomach he had found an inflammatory condition of the mucosa extending down almost to the submucosa. The epithelium was thrown off in large quantity as mucoid vomit and in the final stage complete atrophy of the gastric mucosa occurred. Marked lesions in the intestines had also been found. The mucoid vomit which was vomited in the morning contained pure cultures of streptococcus longus. The conclusion which Dr. Hunter had arrived at was that there was a double infective process: (1) a specific infection, of which the chief evidence was a glossitis; and (2) a septic infection of the mouth, stomach, and intestine, of which the chief evidences during life were varying degrees of "oral sepsis" and "septic gastritis," the latter recognisable during life by the vomit and various symptoms of oral gastric and intestinal disturbance, and after death the conditions of gastritis, gastric atrophy, intestinal atrophy, erosions, or ulcers now and again found in the disease.

Mr. A. LUCAS (Birmingham) exhibited an Unusual Variety of Joint Lesion in a case of Hæmophilia. The patient was a boy, aged 10½ years, who had been an out-patient under the care of Mr. Lucas for about four years, suffering

[1] THE LANCET, Jan. 27th (p. 221) and Feb. 3rd (p. 296) and 10th (p. 371), 1900.

from hæmophilia and who was accidentally drowned whilst at play. He had had repeated hæmorrhages into the knee-joints, more frequently into the right joint. There was much enlargement of this joint, the synovial membrane was thickened, and the ends of the bones also appeared to be enlarged. There were no adhesions; the synovial membrane was thickened and the fringes were hypertrophied and stained from the repeated hæmorrhages. The cartilages were slightly lipped at their free margins as in osteo-arthritis. The articular surfaces showed many irregular pits where in places the cartilage had entirely disappeared. This condition was most marked where there had been pressure of the cartilaginous surfaces, but there appeared to be no rubbing away of the cartilage.

Mr. LUCAS also communicated a case of Congenital Atresia of the Small Intestine which had occurred in a male child, aged three days, who was admitted into the Birmingham General Hospital with symptoms of intestinal obstruction including fæcal vomiting.

Dr. H. D. ROLLESTON showed a Fibrinous Cast of the Gall-bladder removed during Cholecystotomy by Mr. Herbert Allingham from a woman, aged 52 years. The gall-bladder was much enlarged and adherent to adjacent parts. It contained a large single gall-stone of the size of a walnut which was enveloped in a fibrinous cast. The cast was easily separable from the walls of the gall-bladder and resembled a dysmenorrhœic cast of the uterus. Histologically the membrane was composed of a fibrinous network inclosing crystals and bile pigment. The case was an example of fibrinous or membranous cholecystitis. This lesion was not analogous to that of mucous colitis where the intestinal casts were composed of coagulated mucus.

Dr. CLIVE RIVIERE exhibited four specimens of Hæmorrhage into the Suprarenal Capsules from cases occurring at the Shadwell Children's Hospital. The cases were characterised clinically by vomiting, diarrhœa, a purpuric eruption, and a high temperature, and ran their course to a fatal termination in from 12 to 48 hours. The condition of the suprarenals was different from that of circumscribed hæmorrhage since there was a diffuse infiltration with blood. Besides the suprarenal lesion in these cases there was swelling of Peyer's patches and mesenteric glands. It was suggested that the cause might be food toxins or a toxæmia due to a bacterial infection of the intestine. The former seemed unlikely from the insidious course of the early symptoms. The latter explained the condition most satisfactorily.

Dr. F. J. SMITH exhibited specimens from a case of Disseminated Carcinoma simulating Tubercle.

The annual general meeting was held at the conclusion of the ordinary meeting. The report of the council was read and adopted. The re-arrangement of the society's meetings had lead to a satisfactory increase in the attendance of members. A general index of the Transactions had been issued. Owing to the expense of printing the Transactions it would be desirable to adopt some means of retrenchment in the society's expenditure.—Votes of thanks were proposed and carried to the retiring President, Vice-Presidents, members of council, and secretaries.

The following officers and council were duly elected for the year 1902-3:—President: the Right Hon. the Lord Lister. Vice-Presidents: Mr. R. J. Godlee, Dr. W. D. Halliburton, Dr. E. Klein, and Dr. F. W. Pavy. Treasurer: Dr. Sidney Coupland. General secretary: Mr. S. G. Shattock. Sectional secretaries: Dr. H. Morley Fletcher, Mr. A. G. R. Foulerton, Dr. T. Grigor Brodie, and Dr. A. E. Garrod. Council: Dr. R. Crawfurd, Dr. J. Fawcett, Dr. L. Freyberger, Dr. N. Dalton, Dr. G. F. Still, Dr. T. W. P. Lawrence, Dr. S. H. Habershon, Dr. F. W. Andrewes, Dr. W. Bulloch, Dr. John McFadyean, Dr. Allan Macfadyen, Mr. H. G. Plimmer, Dr. R. T. Hewlett, Dr. W. S. Lazarus-Barlow, Dr. J. R. Bradford, Dr. E. H. Starling, Mr. C. A. Ballance, Dr. F. G. Hopkins, Dr. V. Harley, and Dr. S. G. Hédin.

OBSTETRICAL SOCIETY OF LONDON.

Fibroid Tumour of the Ovary.—Lymphangitis Mammæ.—Exhibition of Specimens.

A MEETING of this society was held on May 7th, Dr PETER HORROCKS, the President, being in the chair.

Dr. JOHN S. FAIRBAIRN read a paper on Five Specimens of Fibroid Tumour of the Ovary, with Observations on their Pathological Anatomy. Attention was first directed to the descriptions of these growths as given in the text-books and monographs on the subject. The general statement was that these tumours were formed by hyperplasia of the whole stroma, so that the organ was converted into a hard tumour retaining more or less the original shape of the ovary. Five specimens, varying in size from a small growth of the size of a hen's egg up to a large tumour of over four pounds in weight, were described in detail. In all of them the new growth had arisen within the ovary and affected only a portion of the stroma, leaving a considerable part of the organ as a separate and easily recognisable structure. The microscopic appearances were also noted and a short clinical history of the cases from which they were obtained was added. After looking through a large number of recorded cases of fibroma and fibro-myoma of the ovary, some 15 or 16 were selected as similar to those described in the paper and a short abstract of them was given. When such specimens had been shown at societies they had given rise to some discussion from the unusual persistence of a portion of the ovary. The number of instances quoted, together with the five specimens under review, was sufficient to show that the descriptions usually given were misleading. While the difficulty of detecting unstriped muscle cells among fibrous tissue cells was acknowledged, the evidence of a comparative examination of sections from these tumours appeared to be in favour of their being considered fibromata. The sections provided a very good opportunity of contrasting the minute structure of the growth with the ovarian stroma from which they had originated; the results of such a study were adduced in favour of considering these firm hard growths of the ovary as simple fibromata and not as fibro-sarcomata. The question of these tumours arising from a chronic oöphoritis was discussed very briefly and the importance of the tunica albuginea in forming a strong covering to ovarian growths was pointed out. In conclusion, the fibromata of the ovary were divided into three classes for purposes of description. 1. The ovary was entirely replaced by the new formation. This occurred in small as well as large growths and therefore did not depend on the size to which the growth had attained. 2. A local growth of the stroma leaving part of the ovary unaffected, except by compression. The growth tended to remain within the capsule of the ovary. 3. Pedunculated fibromata like subperitoneal fibroids of the uterus. These might either have originated in the stroma and later been extruded or they might be growths of the tunica albuginea.—Mr. ALBAN H. G. DORAN maintained that the three specimens which he exhibited that evening in relation to Dr. Fairbairn's important paper implied that fibroma and myoma of the ovary were distinct diseases. The section of the large fibroma showed perfect wavy white fibre, as did the section of the little solitary fibroma not half an inch in diameter. The myoma, unlike the two fibromas, was closely related to the ovarian ligament, which included muscular tissue derived from the uterus. On section it showed plain muscle cells, precisely as seen in a section of a myoma of the uterus. Œdematous fibroids were once taken for sarcomas of the ovary; subtracting these suspected malignant growths from the malignant solid tumours of the ovary they would probably find that carcinoma of the ovary was much more common than sarcoma, as Martin had demonstrated, whilst fibroma, innocent even when looking malignant, was by no means rare. There were plenty exhibited that night. Mr. Doran noted how the tube and mesosalpinx often underwent little or no hypertrophy in fibroma, so that when the tumour was large it was rather difficult to get at the pedicle.—Mr. J. BLAND-SUTTON congratulated Dr. Fairbairn on establishing the fact that the encapsulation of the tumour could be relied upon as a generic and distinguishing feature. When the fibroid was of moderate size, as in the smallest specimen of his series, the disproportion between the ovary and the tumour was not so marked; but when the mass had a circumference of 10 or even 30 centimetres, or more, then the small bud-like remnant of the ovary at the uterine end of the tumour appeared to be very incongruous. The leading features of these tumours could be summarised thus: encapsulation, ovoid shape, intense hardness, and the whorled disposition of the tissue as displayed on the cut surface. These were a group of signs presented by no other tumour of the ovary and their clinical value was equal to their simplicity. There was an important feature by which ovarian fibroids were distinguished from similar tumours in the uterus. It was well-established that uterine fibroids did

not arise after the menopause, whereas ovarian fibroids occurred in the aged, and on two occasions Mr. Bland-Sutton had successfully removed them at the ages of 64 and 66 years and the clinical histories indicated that the tumours had only been noticed two years before removal. The extreme hardness of these tumours was a valuable clinical sign and in one of the cases in Dr. Fairbairn's series Mr. Bland-Sutton was able accurately to diagnose the character of the tumour from this sign alone. The paper was a valuable one, even if only regarded from the point of view that its author had rescued a genus of tumours from a group notorious for containing members with extremely bad characters.—Dr. GRIFFITH fully agreed with the conclusion arrived at by Dr. Fairbairn in his interesting paper. He had endeavoured to show in the paper referred to by Dr. Fairbairn that all tumours of the ovary, whether cystic or solid, were in the main structure of their solid parts connective tissue derived from, and having the essential character of, the spindle-celled stroma of the normal organ. Corpora fibrosa were physiologically the ultimate stages of the corpora lutea and where they were enlarged their structure appeared to remain of the special character of the normal bodies and not spindle-celled.—Dr. H. BRIGGS said that amongst his original cases and amongst recent ones he had figured and noted circumscribed growths to which Dr. Fairbairn had paid conspicuous attention. The early writers were correct in alluding to both diffuse and circumscribed growths. Dr. Briggs suggested that Dr. Fairbairn had shown a want of courage in selecting fibroids, and not fibromata, as the title of the paper founded on the five cases which he had described. Mr. Alban Doran's specimen exhibited that night, if not actually a myoma, was the nearest approach in its microscopical characters to a myoma of any he had ever seen. Dr. Briggs thought that that would be a general opinion which meanwhile, in the face of so-much evidence to the contrary, might be held in reserve. The main danger had been, as Mr. Bland-Sutton said, in ascribing malignant properties to cellular structures without adequate clinical proof. In Dr. Briggs's experience this impeachment was not limited to gynæcologists. The proof of the innocence of cellular growths described as fibromata of the ovary had been substantiated by Mr. Alban Doran and himself in the published paper referred to by Dr. Fairbairn. Dr. Briggs cited the case in which he operated almost immediately after he had published his paper. In a girl, aged 17 years, there was a large, brain-like solid growth of the ovary. The girl was still alive and was an active hospital nurse. The tumour was proved to be a highly cellular growth, a myxoma. The rarity, as alleged, of fibromata of the ovary was not justified by facts which had now accumulated. Dr. Briggs added that all his patients from whom he had removed these tumours still lived.—Dr. HERBERT R. SPENCER was surprised at the number of writers cited by the author who regarded ovarian fibroids as diffuse growths involving the whole of the ovarian tissue. His own experience was opposed to such a view, for out of five cases under his own care in four the growth was very definitely limited to a portion of the ovary, and in the fifth (a large tumour) he thought possibly the tumour was so limited, but without spoiling the museum specimen by a series of thin sections it was impossible to settle this point. Ovarian fibroids were certainly benign growths and had much in common with uterine fibroids. The latter did not involve the whole tissue of the uterus but sometimes displaced and compassed it to a remarkable extent. It seemed to him most unlikely that such a benign fibroid growth would invade and destroy the whole of the tissue of the ovary and, as a matter of fact, in the five cases alluded to and in several others he had seen it did not do so. A most interesting point in connexion with these growths not alluded to by any speaker was their origin. Two of his cases suggested, and a third, he thought, clearly demonstrated, the origin of an ovarian fibroid in the tunica fibrosa of a Graafian follicle. This mode of origin had been mentioned by Rokitansky, though he did not know upon what evidence. Patenka's corpora fibrosa were, as Mr. Alban Doran had pointed out, merely degenerated corpora lutea and were entirely different in structure from the fibroids.—The PRESIDENT pointed out that these tumours and also sarcomatous and malignant tumours generally differed from fibroids in that the cut surfaces remained flat, like a cut raw potato, whereas fibroids always became slightly convex on the cut surfaces immediately on being incised, and this convexity gradually increased owing to the shrinking of the elastic and muscular fibres. He considered that it was of great importance to be able to say that a given tumour was a fibroma and innocent, or a sarcoma and malignant, and he hoped the work of Dr. Fairbairn would assist in this direction. He mentioned a case which he had shown himself where equally competent observers had expressed diametrically opposite opinions regarding the microscopic sections. So far as he had gathered the chief distinction seemed to be that in fibromata the blood-vessels were much more clearly defined, but he wished to know if this could be relied upon in deciding.—Dr. FAIRBAIRN briefly replied.

Dr. RALPH H. VINCENT made a communication on Lymphangitis Mammæ, an affection of the breast arising about the tenth day of the puerperium, with well-marked clinical features. He brought forward the notes and temperature charts of six cases illustrating this condition. These cases showed the following clinical signs. There was a wedge-shaped area of inflammation, the apex being at the nipple, the base being at some part of the junction of the breast with the chest-wall. This wedge-shaped area was red, slightly œdematous, hot to the touch, tender, and indurated, the induration being distinctly outlined and definitely corresponding with the redness. The inflamed area was raised above the general breast-surface, but the inflammation was confined to the superficial structures and did not involve the mammary gland. During the development of this condition the temperature rapidly rose, the patient complained of pain in the breast and of headache, whilst constipation was frequently present. The treatment required was simple; the infant was taken from the breast, hot fomentations were applied to the inflamed part, and the patient was freely purged. Within about 48 hours the affection disappeared. He attributed the condition to an infection conveyed to the nipple from the lochia serosa.—Dr. AMAND J. M. ROUTH asked if Dr. Vincent was sure that some of his cases were not small mammary abscesses which had opened suddenly into one of the larger milk-ducts, thus accounting for the sudden cessation of all the symptoms.

Specimens of Fibroma and Myoma of the Ovary were shown by Mr. ALBAN DORAN, Mr. STANLEY BOYD, and Mrs. STANLEY BOYD, M.D.

Dr. W. F. VICTOR BONNEY showed a specimen of very early Twin Pregnancy with Fœtuses of different dates, also a specimen of Early Pregnancy.

Dr. TATE, having shown a Sarcoma of the Uterus complicated by Glycosuria and removed by Vagino-abdominal Hysterectomy, the case was discussed by the PRESIDENT, Dr. M. HANDFIELD-JONES, and Dr. MALINS.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

PATHOLOGICAL SECTION.

Continued Fever due to Gärtner's Bacillus.—Exhibition of Specimen.

A MEETING of this section was held on May 2nd, Professor E. J. MCWEENEY, the President, being in the chair.

Dr. JAMES CRAIG and Professor A. H. WHITE communicated a paper on a case of Continued Fever due to the Bacillus Enteritidis of Gärtner. Dr. Craig said that the patient was an unmarried man, aged 22 years, of temperate and regular habits. About Sept. 18th, 1901, he complained of not feeling well; on the 24th he had shiverings, felt worse, and during the next few days vomited several times; he had slight diarrhœa but felt no pain. On the 30th he visited the Meath Hospital, Dublin, where he came under Dr. Craig's notice. His temperature was 103° F., his pulse-rate was 100, and his respirations were 24; his tongue was furred with a creamy matter, though clean at the tip and along the margins, and when protruded it was seen to be ataxic. He was covered on the front and back of the trunk with rose spots and was suffering from diarrhœa, the stools being thin and yellowish. Typhoid fever was diagnosed and the man was admitted to hospital. The following day the temperature was 104°, his cerebration was slow, he was disinclined to talk, lay on his back, had an eruption of herpes labialis, and in the evening his temperature reached 104·6°. The rash became darker. Sir John Moore saw him in consultation and recommended his removal from the ward, as he looked on the case as one of typhus fever. Professor White examined the blood-serum and found that Widal's

reaction took place with a 1 in 25 dilution. During the following days his condition became worse and the diarrhœa more frequent but without either pain or tympany; his spleen was distinctly enlarged. He now refused nourishment and became wildly delirious, having to be held down; he passed his fæces and urine under him unconsciously. He was given black coffee and hypodermic injections of strychnine but no alcohol. He died on the eleventh day after admission to hospital. The necropsy revealed an enlarged spleen and a condition of inflammation of the mucous membrane throughout the length of the small intestine but no enlargement or ulceration of Peyer's patches. Professor White said that the small intestine did not present the ordinary lesions of typhoid fever; the whole mucous membrane was inflamed. The spleen was enlarged and from it he obtained a pure culture of an organism which, though at first sight it appeared to be the typhoid bacillus, he now considered to belong to the bacillus enteritidis group. The organism was a motile bacillus which decolourised by Gram's process and did not liquefy gelatin or coagulate milk; it caused fermentation of glucose but not of glycerine. Professor White exhibited about 20 different cultures of this organism on various media and similar cultures of the typhoid bacillus, bacillus coli, and two known varieties of the bacillus enteritidis given him by Professor O'Sullivan. He had not immunised an animal against this organism but hoped to do so in order to determine, if possible, to which of the varieties of the bacillus enteritidis group this organism belonged. The blood serum from some typhoid patients gave a clumping reaction with this organism at low dilutions only, while the serum of this patient gave a reaction with typhoid bacilli at a dilution of 1 in 25 but not at 1 in 50. Professor White then recounted a number of outbreaks of serious illness following on the eating of meat containing these organisms, in many of which death resulted, and he gave an abstract of Durham's work on the subject. He considered the Gärtner group of micro-organisms to be distinct organisms, not aberrant forms. He looked on the present case as one not of typhoid fever but of fever due to a bacillus having all the morphological, cultural, and pathogenic characters of the bacillus enteritidis.—The PRESIDENT said that he inclined to the idea that the Gärtner organism occupied an intermediate position between the typhoid bacillus and the bacillus coli. The case in its clinical aspects had a striking resemblance to a series of six or eight cases brought forward by Dr. Chiari at the International Medical Congress held in Moscow. In these there were no typhoid lesions but splenic puncture yielded micro-organisms which produced typhoid infection. He looked on the case as one of typhoid septicæmia due to an aberrant bacillus.

Professor C. Y. PEARSON exhibited a Sarcomatous Osteo-Chondroma of the Femur removed by Disarticulation at the Hip on August 22nd, 1901. The patient was a man, aged 57 years. The tumour was of almost stony hardness and measured 31 inches in circumference at its widest part. It was a periosteal osteo-chondroma. The patient made a good recovery but returned in April, 1902, ailing with severe abdominal pain and was found to have a tumour with communicated impulse in the epigastrium.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on May 14th, Dr. James Ritchie, the President, being in the chair.—Professor A. R. Simpson showed (1) an Anencephalous Fœtus with Spina Bifida and Exomphalos; the condition was associated with hydramnios; (2) Dermoid Tumour of the Ovary; (3) Solid Fibroma of the Ovary; (4) Tumour of the Ovary containing Mother and Daughter Hydatids; and (5) Bossi's Dilator for the Cervix, which had four blades and was worked by a screw handle, an indicator showing the amount of dilatation produced; when used for the pregnant uterus rounded guards were slipped over the narrow blades and full dilatation of the cervix could be effected in half an hour without any tearing of the tissues.—Dr. D. Berry Hart showed a Uterus removed for Cancer of the Cervix, a Malignant Tumour of the Ovary, and a Hydrosalpinx.—Dr. F. W. N. Haultain showed (1) an Ovarian Cyst with Double Pyosalpinx which had Ruptured into the Intestine; (2) Probable Ovarian Pregnancy; (3) Uterus removed for Adeno-sarcoma; and (4) Double Monster with fused bodies, two heads, four legs, and three arms, one of which had two hands.—Dr. W. Fordyce showed a Solid Fibroid Tumour of the Ovary.—Dr. Hart, with the aid of diagrams, described the Development of the Amnion and Cord. The current view as to the origin of the amnion and cord, as in the chick, was discussed and the difficulties in accepting it were pointed out. The amnion did not cover the human cord and practically there was no allantois to fix the embryo to the chorion after it had been separated off by the hypothetical folds. From a consideration of Peter's ovum and a similar one in Dr. Hart's possession he concluded that (1) the amnion was formed by the central breaking down of an ectodermic plug as in the guinea-pig (so-called inversion of the membranes); and (2) it was formed early in the development of the embryo and prior to the formation of the cœlom from which the pleuro-peritoneal cavity is evolved.—Professor Simpson and Dr. J. W. Ballantyne made remarks on the subject.—The President read notes on a case of Acute Pyelitis in Infancy.—Dr. John Thomson read a paper on the Symptoms and Treatment of Acute Pyelitis in Infancy. He gave his experience of eight cases observed since Dr. Emmet Holt of New York wrote his paper in 1894. The condition could not therefore be rare. Undiagnosed it was an alarming illness but under proper treatment it was a very curable one. Dr. Thomson's patients were all girls and their ages varied from seven and a half to 20 months, but the disease occurred not uncommonly in older children also. In almost all the published cases the patients had been girls. In one of the eight cases the parents were rheumatic and in another there was a family history of gout. In six cases the previous health had been excellent and in two cases chronic dyspepsia and rickets were present. They had all been artificially fed. Two cases had shown symptoms of infantile scurvy, one severe, the other slight, and influenza had preceded the pyelitis in two cases. In all but one case there had been troublesome constipation; in some there had been occasional attacks of diarrhœa. In five cases at least there was a history either of soreness about the anus or pain during the act of defecation, or blood had been seen in the motions. The symptoms were ushered in generally with a rapid rise of temperature, so that pneumonia or influenza had often been suspected. In no case did convulsions occur, but in four of them there were one or more severe rigors or chills. This occurrence of rigors in an infant was very helpful in the diagnosis of the condition. Even in malaria well-marked signs were said to be rare under two years, though they did sometimes occur. Their place was generally taken by a convulsion. Apart from malaria Dr. Thomson could not find any account of a rigor in a child under two years of age without the presence of pus in the urine. Suppurative or other surgical conditions did not seem to be attended with rigors in young children. The temperature was frequently above 104° F. and its type was more or less remittent, so that the chart often looked like that of enteric fever. The effect of treatment on the temperature was very striking. Another very marked characteristic of the disease was the extreme restlessness and distress which the children displayed, though this was not a constant condition. The appetite was often well maintained and consequently the emaciation might not be rapid. There might be screaming fits as in colic. There might be only uneasiness or slight pain on micturition, but just as frequently there were no symptoms occurring with micturition. There was excoriation or fissure of the anus in five of the eight cases, and in two there was some soreness of the vulva. Tenderness on palpation of the kidney was distinctly evident in two cases. The urine was always acid, generally extremely so; in one case there was a peculiar fœtid odour. Albumin was always present in small amount, but in no case more than could be accounted for by the pus cells present; no tube casts could be found. Pus was always present in considerable amount; sometimes the urine was turbid with it. A few epithelial cells of different shapes were usually to be seen. Blood was only detected in one case where there had been scorbutic hæmaturia not long before. Bacteria were always visible in large numbers in the freshly-passed urine and cultures of the urine gave pure growths of the bacillus coli communis. No crystals were found during the illness but large quantities of uric acid and oxalates had been passed on former occasions. The cause of the disease was the bacillus coli communis and it might reach the pelvis of the kidney by the blood or lymph-stream or up the urethra. The great preponderance of females affected would suggest the last as the usual source. Together with the presence of the bacillus there must be a lowering of the vitality of the tissues. The diagnosis depended on the presence of pus and bacilli in acid urine, the occurrence of

rigors (almost conclusive), and any local tenderness, together with considerable fever. The prognosis was favourable; under proper treatment the cases improved rapidly as regards the temperature and symptoms, but it was usually several weeks before the pus disappeard from the urine. The main and the only essential treatment consisted in rendering the urine neutral by the administration of alkaline remedies as speedily as possible. The results were most striking. Dr. Thomson used citrate of potash and it required to be given freely before the urine lost its acidity. 24 grains in the 24 hours might suffice in less severe cases but generally from 36 to 48 grains were necessary. This quantity of alkali was very beneficial but it usually caused depression. The temperature became subnormal and the child became flabby and nauseated. No harm arose, and relapse might occur when the potash was prematurely diminished or discontinued. Antiseptics given alone were not very efficacious but in combination with alkali were helpful. Salol acted well; urotropin seemed less active; creasote was found to be very useful by Baginsky. Holt tried very large doses of quinine with very little effect.—Dr. Ballantyne, Dr. J. Haig Ferguson, Dr. G. Keppie Paterson, Dr. Fordyce, and Dr. H. M. Church discussed the paper and the President and Dr. Thomson replied.

ULSTER MEDICAL SOCIETY.—A meeting of this society was held on May 8th, Professor W. Whitla, the President, being in the chair.—Mr. A. B. Mitchell showed a radiogram of a very Oblique Fracture of the Femur and the patient; also three patients operated on for Abscess due to Spinal Caries.—Dr. T. Houston showed a case of Pernicious Anæmia.—Dr. James Lynass showed a case of Double Talipes Equino-varus treated by excision of the astragalus and a case of extensive Epithelioma of the Lower Lip treated by excision and plastic operation.—In the discussion which followed Mr. A. Fullerton, Mr. R. Campbell, Dr. W. Calwell, Professor J. W. Byers, and Dr. A. Dempsey took part.—Dr. John Campbell exhibited a Myoma of the Uterus and an Ovarian Tumour removed by Abdominal Section.—Dr. J. K. Greenfield read a paper on Some Forms of Peritonitis and their Treatment, the cases being of various kinds, with an interesting account of the treatment employed.—Dr. John Campbell read a paper on the Treatment of Dysmenorrhœa. He approached the subject from the purely clinical standpoint and divided the cases into two main groups—viz., (1) those without pelvic lesions and (2) those with pelvic lesions. The former group included the anæmic and neurotic subjects who required general hygienic treatment and purgatives, tonics, or sedatives according to circumstances. Neurotic subjects were sometimes benefited by the constant electric current with the negative pole in the uterus and the positive on the abdomen, a current of from 20 to 40 milliampères being used. The second group having pelvic lesions might all be treated by dilatation and curetting of the uterus, followed by the insertion of a gauze uterine drain. This gave good results in some cases and failed utterly in others. The important thing was to select the cases so as to avoid bringing the method into contempt by applying it in unsuitable cases or strongly advising it in doubtful ones. Accordingly cases of dysmenorrhœa with pelvic lesions might be subdivided into three classes—viz.: 1. Those with slightly enlarged or anteflexed or inflamed uteri and normal appendages which were improved by curetting and gauze drainage, which was essentially the treatment for them. 2. Those in which the uterus was approximately normal and the appendages diseased. Here curetting gave results in the main proportionate to the amount of involvement of the uterus. Unfortunately, the appendage mischief so overshadowed the uterine trouble that removal of the latter was hardly appreciated by the patient. The idea so much advocated by American writers that curetting benefited tubal disease was wrong. It benefited the uterus alone and results depended on the relative intensity of the disease in the uterus and tubes. 3. Those in which the uterus was displaced and more or less adherent, the appendages being also affected in varying degrees. Here curetting gave little hope of substantial permanent improvement and should only be done as an experiment when all else had failed. Removal of diseased appendages for dysmenorrhœa was not to be done unless other reasons than pain demanded their removal. Women with painful ovaries were liable to have painful stumps after operation. The breaking down of adhesions followed by ventro-fixation or vagino-fixation was very uncertain in its results. These operations should only be done as a last resource and the patient should not be led to expect too much from them, as they often failed to give her satisfaction. The treatment of bad cases of dysmenorrhœa remained unsatisfactory in spite of our advances.—Dr. C. Kevin spoke of the value of Dr. Campbell's paper to general practitioners.—Professor Byers said that the difficulty in defining what was dysmenorrhœa arose from there being no way of measuring pain. For teaching purposes the well-known aphorism might be accepted that, among the leisured classes a woman could be said to suffer from dysmenorrhœa if the pain was so great that she could not fulfil her social duties, while among the poor they might be said to have dysmenorrhœa if they were unable to work. They might divide the cases seeking treatment into those without, and those with, local lesions, and the latter class, if any operative interference was to be done, must be managed with the very greatest care. He referred to the curious group of cases where the pain was not at the menstrual periods but midway between them and discussed their pathology.—Dr. Dempsey spoke of those cases in which the rheumatic diathesis seemed to be a factor in causation.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on May 9th, Dr. S. Buckley, the President, being in the chair.—Professor C. J. Wright (Leeds) showed a series of Plaster Casts illustrating the Effects of Birth Moulding in Various Presentations upon the Shape and Diameter of the Fœtal Head. The presenting parts shown were: (1) the occipito-anterior vertex; (2) the occipito-posterior vertex; (3) the head following pelvic presentation; (4) the face; (5) the brow; and (6) the vertex after delivery through a flattened pelvis. The models were obtained from Berlin for teaching purposes.—Other specimens were shown by Dr. J. B. Hellier (Leeds), Dr. J. E. Gemmell (Liverpool), Mr. H. Littlewood (Leeds), Dr. H. Briggs (Liverpool), and Dr. A. E. L. Wear (Leeds).—Dr. W. Murray Cairns (Liverpool) related a case in which he had performed Craniotomy and Cranioclasm for Face Presentation with Impaction in a Contracted Pelvis. The patient was pregnant for the tenth time, six of the previous labours having been difficult and instrumental. Dr. Cairns saw the case when labour had been in progress for 13 hours. The os was fully dilated, the face presenting, and the head impacted at the brim. The liquor amnii had already drained away. The forceps was applied and failed and version was found impossible. The head was perforated through the anterior fontanelle and extraction completed with the cranioclast. Dr. Cairns was of opinion that with the improved modern methods of performing Cæsarean section the treatment he had resorted to in this case would only be justifiable in very exceptional cases.—Dr. Cairns also mentioned a case of Intra-uterine Strangulation. An extremely neurotic patient, aged 32 years, in her first pregnancy suffered great discomfort from the tumultuous movements of the fœtus in utero. The symptom was alleviated somewhat by bromide of potassium. For several days before premature labour came on at the eighth month the movements had ceased to be felt. The fœtus when delivered had evidently been dead some days. The cord was very short and was drawn tightly round the child's neck. The skin of the neck was marked by the pressure of the constricting cord.—The cases were discussed by Dr. W. J. Sinclair, Mr. G. Roper, Dr. Briggs, Dr. Gemmell, and Dr. J. Braithwaite.—Dr. Hellier (Leeds) reported a case of Vaginal Hysterectomy in which Secondary Hæmorrhage occurred on the fifteenth day. The patient, a multipara, aged 51 years, was found to have early cancer of the cervix uteri. The growth was limited to the cervix and had not broken down much. The uterus was removed by vaginal hysterectomy, the operation being easy and not prolonged. Progress was good until the fourteenth day, when the last ligature came away and there was trifling bleeding. On the fifteenth day violent secondary arterial hæmorrhage came on which could not be controlled by vaginal packing. The patient, who was almost pulseless, was placed in the Trendelenburg position and the abdomen was opened. By means of Doyen's retractor and the electric light the bleeding point was seen to be a branch of the right ovarian artery. The vessel was tied and a gauze drain passed from the pelvis into the vagina. The patient made a good recovery.—The case was discussed by Dr. Sinclair, Dr. Briggs, Dr. Braithwaite, Mr. Littlewood, and Mr. S. Rumboll.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—A meeting of this society was

held on May 9th, Mr. Lennox Browne, Vice-President, being in the chair.—Dr. Wyatt Wingrave read the notes of a case of Otomycosis (aspergillus niger) and showed a microscopical specimen of the fungus.—Mr. Mayo Collier exhibited a patient, a man, aged 63 years, suffering from Chorea of the Larynx of 12 months' duration, preceded by similar twitchings of the muscles of the face.—Dr. P. H. Abercrombie showed a case of Left Frontal Sinus Disease of 13 years' duration, with frequent attacks of excruciating pain and great tenderness over the right frontal sinus, which later, on exploration, was found to be healthy. Operation, three months ago, had resulted successfully.—Dr. Abercrombie also showed two new instruments (one by Dr. Jakins and the other his own) adapted to the Enlargement of the Fronto-nasal Canal.—Mr. Lennox Browne showed a patient, a man, aged 22 years, the subject since four years of age of Suppurative Median Otitis in the Left Ear. There was granulation tissue to be observed springing from the anterior and superior part of the tympanic cavity.—The discussion on Dr. Dundas Grant's paper on the Diagnosis and Treatment of the Various Forms of Nerve Deafness, read at the last meeting of the association, was resumed by Dr. Greville MacDonald who remarked that there were many peculiarities in patients the subjects of nerve deafness. For instance, many were extremely hypersensitive to loud sounds and were fond of quiet places; they were very deaf in noisy surroundings but heard pretty well when all else was quiet. To such loud noises were actually painful and in some cases might even induce giddiness. Such patients were extremely sensitive to syringing the ear and any sudden shock, such as flashes of light or the rapid passing of one of the red mail-carts, had been known to upset the equilibrium. Patients with nerve deafness were very liable to attacks of migraine (especially occipital) and this increased the deafness for two or three days. He thought that Dr. Grant's division into anæmic and congestive was valuable and was a good guide to treatment. Nevertheless, cases of anæmia were seen presenting signs of congestion of the internal ear, a state of matters no doubt attributable to vaso-motor debility. Depletion was of value to both anæmic and congestive cases and an aperient was usually beneficial. He considered that the improvement in hearing, after many intra-nasal operations, such as depletion of the inferior turbinal or removal of septal spurs, could often be accounted for as much by depletion as by the removal of nasal obstruction.—Mr. Lennox Browne said that he agreed with Dr. MacDonald's remarks as to the explanation of the occurrence of both anæmia and congestion in the same patient, as well as in the value of depletion, but he could hardly agree that this latter alone explained the improvement in hearing, following the removal of intra-nasal obstruction. He thought that purgatives and restricted diet constituted a better basis of therapeutics than nerve tonics and nourishment. He had not seen any good result from the administration of quinine in nerve deafness.—Dr. Atwood Thorne, Dr. Wingrave, and Mr. W. J. C. Nourse also took part in the discussion.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—The eighth meeting of the session (ordinary meeting) was held on May 2nd in the rooms of the Post-Graduate College, West London Hospital, Mr. McAdam Eccles, Vice-President, being in the chair.—Mr. Stephen Paget read a paper entitled "Notes on a Case of Empyema where Washing Out the Cavity was followed by Epileptiform Convulsions and Death." He referred also to other similar cases.—Dr. Seymour Taylor read a paper on Gall-Stones and their Medical Treatment, followed by Mr. L. A. Bidwell with a paper on Gall-Stones and their Surgical Treatment.—Mr. Alban Doran advocated the employment of prolonged incisions in operation on these cases.—Dr. O. Grünbaum commented on the comparative uselessness of oil in the treatment of gall-stones. He pointed out that an examination of the blood as to leucocytosis and the number of platelets might prove of great value in the diagnosis of the presence of pus in the gall-bladder.—Mr. Rickard W. Lloyd related particulars of two cases that had lately been under his care.—Mr. John R. Lunn read a paper on a case of Strangulated Femoral Hernia treated by herniotomy and followed by death in seven hours from collapse following the perforation of an ulcer just above the seat of strangulation.—Dr. Taylor and Mr. Paget commented upon the case.

GLASGOW SOUTHERN MEDICAL SOCIETY.—A meeting of this society was held on May 15th.—Through the kindness of Mr. W. Quarrier members had an opportunity of visiting the Consumption Sanatoriums at Bridge of Weir, Renfrewshire. There was a large attendance of the society and Mr. Quarrier personally conducted the party over the grounds and buildings. A close inspection was made of the more recently built sanatorium, given by friends in the East of Scotland, which is appropriately called "The Door of Hope." With regard to the treatment at the sanatoriums at Bridge of Weir it was pointed out that the method employed was similar to that known as the "Nordrach" treatment, consisting of an abundant supply of fresh air, generous diet, rest, and personal surveillance during residence. In all febrile cases rest in bed was strictly enjoined until the morning temperature was normal and the thermometer registered the evening temperature as less than a degree above the morning temperature. The average residence for those discharged reached 141·9 days and patients were admitted in all stages of the disease. The results were most encouraging and satisfactory.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on May 7th, Dr. H. Ashby, past-president, being in the chair.—Dr. Ashby showed a Medulla containing a Softened Patch from a case in which death was caused by respiratory paralysis.—Mr. W. P. Montgomery showed a specimen of Prostatic Adenomata removed by supra-pubic incision after the manner of so-called complete prostatectomy. The position of this operation was discussed.—Dr. F. C. Moore described Stenosis and Obliteration of the Large Hepatic Veins and showed specimens.—Mr. J. W. Smith and Dr. A. E. Finney mentioned a case of Contusion of the Abdomen resulting in Rupture of the Intestine and showed the specimens.

Reviews and Notices of Books.

Traité de Bactériologie Pure et Appliquée à la Médecine et à l'Hygiène. Par M. P. MIQUEL et M. R. CAMBIER, Directeur et Sous-directeur du Laboratoire de Bactériologie de la Ville de Paris. Paris: C. Naud. 1902. Pp. 1059. Price 45 francs.

THIS work is a most exhaustive treatise on bacteriology. It contains a more or less detailed digest of the most important researches carried out since the infancy of the science, and the book teems with copious references to the original literature, to which the student can have recourse for fuller knowledge on any special line of investigation. It is essentially a book of reference, not only on account of the authority which the names of the authors naturally lend to it, but also on account of the extensive range of its subject-matter, and as such it should appeal alike to the student of medicine, human or veterinary, of hygiene, or of pure bacteriology. Thus, while a considerable portion of the book is devoted to an account of the pathogenic bacteria, no less than 300 of the 1059 pages are taken up with descriptions of the non-pathogenic bacteria, such as those of fermentation, the chromogenic bacteria, and those found respectively in air, water, and soil.

The book is divided into four parts. The first part deals with the general properties of bacteria, morphological and biological, and with the methods of isolation, cultivation, and microscopical examination. The classification adopted is the usual morphological one—into micrococci, bacilli, and spirilla. The bactericidal properties of physical and chemical agents are very fully discussed and an interesting account is given of the variations which bacteria may undergo in form and in biological properties when acted upon by certain of these agents in varying degrees of intensity. It is satisfactory to note that the practice of interrupted sterilisation by heating to 100° C. for a short time on three successive days is condemned—a practice which we have reason to believe is much in vogue on this side of the Channel and of the inefficiency of which we have only lately had too good proof. The method is based on the false notion that the spores escaping one process of heating develop into the adult form during the 24-hours' interval.

As a matter of fact, several days are required for the spores to recover their vitality after submission to the first heating. The method advocated here is sterilisation by the autoclave with a temperature of 110° to 111° C. for half an hour or filtration as an alternative for such cultivating media as do not admit of this treatment.

The second part is devoted to a detailed description of the pathogenic bacteria and the diseases of man and animal which are ascribed to them. Under "hæmorrhagic septicæmiæ" are described 11 different infections of animals by micrococci. Throughout this part of the work the diseases of animals due to known organisms are discussed in much detail; on the other hand, some of the human infections are not always treated at such length as their importance would seem to deserve. The attempts at immunisation against pneumonia, for instance, receive scant notice and the work of Washbourn is completely ignored. No reference is made to Koch's views in regard to the differences between human and bovine tuberculosis and the inoculability of man with the latter. The last chapter of this part, on Susceptibility and Immunity, is very brief. Ehrlich's chemical theory of toxins and antitoxins is not even mentioned. The whole subject is treated in a somewhat superficial manner. The diagnostic differences between pathogenic and closely similar non-pathogenic organisms, as in the case of the diphtheria and typhoid bacilli and the cholera spirilla, are most carefully described and support is given to the view that such organisms may have a close relationship—that a given organism may, under certain conditions, develop pathogenic properties and other biological variations and may relapse again into an innocuous state with change of those conditions.

The third part contains an account of the non-pathogenic bacteria. These are ranged under the headings of Zymogenic Bacteria, Chromogenic Bacteria, and Common, Saprogenic and Unclassified Bacteria. 12 different bacteria are described capable of transforming urea into ammonium carbonate and over 70 chromogenic bacteria are dealt with in this part.

The fourth part treats of bacteriology applied to hygiene. Here is heard the voice of authority in clear tones, and the methods of research adopted and developed by the authors in their investigation of bacterial contamination of air, water, and soil are given fully and make very interesting reading.

The study of micromycetes and protozoa is not included in this work and consequently the malarial parasites do not find a place, but in the preface the authors express a hope to complete their treatise by a fifth part dealing with pathogenic and zymogenic infusoria and fungi.

Like so many books of this nature published on the continent, this work is issued in the form of a most cumbrous and inconvenient volume with a paper cover; the text, however, is printed in large type and on good paper.

Elements of Medicine. By ALFRED H. CARTER, M.D. Lond., M.Sc. Birm. Eighth edition. London: H. K. Lewis. 1901. Pp. 590. Price 10*s.* 6*d.*

IN the eighth edition of his "Elements of Medicine" Dr. Carter has strictly adhered to the style and method which have made the previous issues so peculiarly successful. That is to say, it still remains a simple and straightforward introduction to the study of practical medicine which has caught the spirit of contemporary medical thought without in any way yielding to the passing fancies of our prolific specialisation or to the complicated nomenclature of our modern pathology. The present-day student of medicine, struggling with the encyclopædic information collected for his edification in up-to-date text-books, will turn with relief to Dr. Carter's unsophisticated account of the diseases which he will meet with in practice. The whole of the text has been carefully revised and large portions have been entirely rewritten, while the section on Diseases of the Skin is from the pen of a new contributor—viz., Dr. W. d'Este Emery who has contributed a very readable chapter on his special subject. The section of the book which deals with general diseases and which includes an account of rheumatism, gout, diabetes, and cancer is very good, in particular the description of gout is a sound epitome of the symptoms of a perplexing disease. Dr. Carter's account of the predisposition to slow and perverted nitrogenous metabolism which characterises the nutritional processes of the gouty subject and the unfolding of his argument of the associated occurrence of obesity, diabetes, and gall-stones enable us to form a vivid picture of the essential nature of gout. One of the first conceptions, and often the only one, of the essential pathology of gout which dawns on the mental horizon of the average student is an image of a uric acid crystal deposited at a special seat of election—namely, the articular cartilage of the great toe. If he reads Dr. Carter he will appreciate that this deposition of uric acid is due to a relative over-taxation of nutrition associated with a gross or feeble habit of body and will be able to approach more elaborate works with a good chance of fully understanding them. Again, in his account of acute rheumatism Dr. Carter gives evidence of a nicely balanced judgment. While admitting that the essential nature of the disease still remains unknown he refuses to endorse the microbic theory. Throughout Dr. Carter views the power for good or evil which belongs to microbic organisms in a thoroughly rational perspective. The diseases of the nervous system have necessarily entailed a full share of revision and this work has been carefully and judiciously done. We notice, however, that no attempt has been made to bring locomotor ataxy and general paralysis of the insane into pathological line. Indeed, so far as the student will be able to gather from the two independent accounts of these conditions they do not possess a single feature in common. In the account of the muscular dystrophies, which are classified as primary and pseudo-hypertrophic, the author does not give us the impression of being perfectly clear in his own mind as to the relationship which these diseases hold to one another or to other muscular atrophies of undoubted nerve origin. The chapters which deal with the specific fevers and the diseases of the alimentary tract show fewer alterations than do those to which we have already referred. But taking the book all round it is certainly an improved as well as a revised edition of a useful text-book. It must not be used to supersede all the larger text-books. Dr. Carter proposes to treat of the "elements" of medicine and expects his work to be used more or less as an introduction to the comprehensive treatises.

Buller's Campaign with the Natal Field Force of 1900. By E. BLAKE KNOX, B.A., M.D. Dub., Lieutenant, Royal Army Medical Corps. With Maps and Illustrations. London: R. Brimley Johnson. 1902. Pp. 336. Price 10*s.* 6*d.* net.

WE may say at once that we closed this volume with the feeling that we had been reading a notable book. The author has the qualifications that go to make up a military historian. He has a discerning eye for taking in a military situation, and for seeing and describing the natural and topographical features and the dispositions of the belligerents on the scene of an engagement. Then he writes freshly, clearly, and to the point in describing what he sees and experiences and as to the impressions which the events—some of them terrible enough—create in his mind. The book, we are glad to notice, is dedicated to Colonel Sir Thomas J. Gallwey, K.C.M.G., C.B., R.A.M.C., the principal medical officer of the Natal army, and to its officers, as an expression of appreciation of the good comradeship that existed between all ranks during the campaign. Field medical arrangements

and dispositions necessarily form part of the narrative and observations connected therewith are interspersed in the course of it, and a note on the medical aspect of the Natal campaign is added in an appendix. But the volume consists for the most part of the military history of that campaign.

The book begins with a very brief prologue of events preceding the arrival of the Fifth Division at Estcourt and the story of the battle of Colenso does not come into the narrative, but the author was present at all the engagements that followed, up to the relief of Ladysmith, and subsequently during General Buller's advance through Northern Natal into the Transvaal. He was one of those who witnessed the battle of Thaba Myama which culminated in the terrible struggle that occurred at Spion Kop. The description of the march to the Tugela in the first chapter strikes us as being well done. We may notice incidentally that the author points out how khaki drill when wet in the presence of a breeze acts as a refrigerator and that this fact having been appreciated the issue of serge was in later operations of the campaign substituted for khaki. Chapters II. and III. deal with the battle of Thaba Myama and Spion Kop, and these chapters, comprising some 70 pages, are well worth reading, for the narrative is clear and vivid. Since the publication of this book—and since we began our review of it—the Spion Kop despatches have been published. It is a gloomy and painfully depressing, as well as a somewhat perplexing, story. The only redeeming point about it is the heroic conduct of the regimental officers and men and even the recognition of this is saddened by the feeling that all their efforts were rendered futile and unavailing from causes which we need not detail. As it happened, according to the author of this book, the Boers thought the withdrawal of our troops from the hill the worst mistake which we had made during the war. They were, in fact, retreating down one side while the Boers were going down the other.

The succeeding chapters narrate the battle of Vaal Krantz, the engagements round Colenso, Hart's Hill, and the final operations, including the battles of Pieter's Hill—which is excellently described—Laing's Nek, and Belfast. Throughout the volume the author dwells forcibly and emphatically upon the extraordinary difficulties and obstacles that had to be encountered and upon the stupendous nature of the task which fell to the lot of General Buller to undertake. Without expressly assuming to be a defender of General Buller it is nevertheless very clear that the author shared the devotion, personal loyalty, and confidence in their chief with which the soldiers of the Natal Field Force were inspired. It is quite refreshing and inspiriting to read what the author has to say about the courage and conduct of the troops and about the devoted services of the Indian bearers and the men of the stretcher corps.

Numerous descriptions, allusions, and comments relating to the officers and men of the Royal Army Medical Corps, the hospitals, and the wounded, and incidents connected with them, are interspersed in the text throughout the volume. If we were to refer to all the tempting passages and points which we had marked for notice our review would altogether exceed the limits at our disposal. The work to be rightly appreciated requires to be read as a continuous record of the operations of the Natal Field Force and as a whole; it is, we should add, capitally illustrated with plates and plans, and "well got up." We strongly recommend all who are interested in the subject to read it.

LIBRARY TABLE.

The Way of Escape. By GRAHAM TRAVERS (Margaret G. Todd, M.D. Brux.). Edinburgh and London: William Blackwood and Sons. 1902. Pp. 383. Price 6*s.*—This work is on a higher plane even than "Windyhaugh," which was the previous work of Miss Todd. It is the story of a very noble life, and Vera is a woman whom any man would be proud to have the right to call his friend. Like so many other women, she wrecked her life for a man who was a cad and a coward, although he did not go about like some men of his kidney and talk about "my honour." Vera's fall, her rising again, her purgatorial life, and her triumphant end make up a very excellent novel. Miss Todd possesses the somewhat rare power of being able to write truthfully about children, a faculty which she owns in common with the author of "The Golden Age" and "Dream Days"—works which, we gather from a chance remark upon page 150, she knows and loves. If we were to pick a hole in "The Way of Escape" we should say that the story is somewhat *décousu*, but that is a common fault with writers who are treating a subject which they know intimately themselves for those who do not know. For instance, we are rather uncertain as to whether Vera had a baby or not, why she suddenly appears in Book II. as a governess in Brussels, and why towards the end of the book she should have felt compelled to tell her brother Harold all about herself. Miss Todd, of course, knows the answer to these questions; we have our own ideas on the subject, but we think that a little more accurate "joining of the flats" would have done no harm. Still the book is a fine piece of work and one which will still further increase Miss Todd's reputation.

JOURNALS AND MAGAZINES.

The Journal of Hygiene. Vol. II., No. 2, April, 1902. Cambridge: University Press. Price 5*s.* net.—This number opens with a paper by Surgeon Walter Reed of the United States Army upon the recent researches as to the Etiology, Propagation, and Prevention of Yellow Fever. The author was President of the United States Army Commission appointed to inquire into the subject and his testimony is therefore of much value. We have recently commented in our columns upon this matter and hence it suffices here to point out that the paper is of the greatest epidemiological interest and that it deals—destructively—with the bacteriology of yellow fever, that it brings out the important fact that yellow fever can be produced by the injection of a small quantity of bacteria-free serum filtrate obtained by passing the diluted serum through a Berkefeld filter. It deals, too, with the remarkable and heroic experiments by which it was shown that infected fomites were powerless to convey the disease and that the bites of infected *Stegomyia fasciata* alone were the means of conveying the disease. Finally, it recounts the steps taken to stamp out yellow fever in Havana, to which we alluded in our leading article of April 12th. Major C. Birt and Major W. B. Leisham, R.A.M.C., describe a new acid-fast streptothrix pathogenic to man and animals, and Captain Leonard Rogers, I.M.S., records his experiments as to the disinfection of floors for plague. He finds that very much stronger solutions are required to effect such disinfection than suffice to kill the plague bacillus in the test tube. Dr. D. Noel Paton furnishes the results of his observations on the movements of polluted water in the Tyne estuary. According to these observations—too few, as the author himself points out—the Tyne on the flood is relatively pure and allows the passage of salmon, there being no concentration zone of sewage as is the case in the Thames. Among other papers is one by Dr. G. S. Graham-Smith on the Measures taken to check Diphtheria at Colchester and one by Dr. George Dean and Dr. Charles Todd on their Experiments on the Relation of Cows to Diphtheria. The authors state in the beginning of their paper that there has been for many years an "impression" among sanitarians that milk is capable of acting as a vehicle of infection in scarlet fever. We should have inclined to the view that

epidemiologically the connexion had been demonstrated, the only outstanding point being whether the disease in man ever has its origin in a disease of the cow. In the outbreak here in question there was an eruptive disease on the teats of the cows furnishing the milk and the diphtheria bacillus was found both on the eruption and in the milk. The authors, however, give reasons for inferring that the bacilli were superadded by the milker, albeit the evidence on this point is largely hypothetical. The eruption on the cow's udders was not, the authors think, cow-pox. The number concludes with an interesting review of the current theories regarding immunity from the pen of Dr. James Ritchie which should be most helpful to those who have been unable to follow the recent work step by step.

The Medical Journal of the Italian Navy.—The April number of the *Annali di Medicina Navale* contains several interesting articles, notably an illustrated synopsis of Dr. Lucas Championnière's work on the treatment of fractures by massage and passive movement, the illustrations being reproduced by special permission from the originals, and also, under the heading "Casuistica Clinica," the report by Dr. Giovanni Petella of a case of recurrent ophthalmoplegia which was under treatment in Professor C. Reymond's wards in the University of Turin. As usual, a considerable portion of the *Annali* is devoted to extracts from foreign medical journals, French, German, English, and American; but we have been unable to find anything having especial reference to naval medicine, surgery, or hygiene.

The *Medical Magazine* for May contains a pleasant and instructive article by Mr. S. B. Atkinson of the Inner Temple on the Law of Negligence in Relation to Medical Men. Mr. Atkinson deals with questions constantly arising the legal aspect of which is often most unfamiliar to medical men, for whom, nevertheless, such aspects may easily at any time acquire an intimate interest. In another contribution the new Royal Warrant for the Army Medical Service receives warm commendation at the hands of a retired medical officer who declares that the future position of the officers in the Royal Army Medical Corps will be decidedly an enviable one. The writer singles out particularly what he considers to be one weak point in the warrant—viz., the absence of all evidence that the India Office, under the ægis of which a certain period of service is almost invariably borne by young officers, intends to amend its conditions conformably with the improvements contemplated by the War Office. An extract from Dr. Claud Muirhead's report in connexion with the mortality experience of the Scottish Widows' Fund Assurance Society bears out the general notion as to the increase of cancer mortality and the comparative diminution of deaths from consumption.

Analytical Records
FROM
THE LANCET LABORATORY.

BEEF KARNOID.
(THE KARNOID LABORATORY, CATERHAM, SURREY.)

WE have already commented favourably upon this preparation.[1] It is pulverised beef with simply the moisture removed by a cold-air process and the excess of fat eliminated. The beef is thus preserved in a raw state, containing myosin albumin in the same condition as in fresh-killed meat. The preparation has been further improved since we examined the specimens first submitted to us. This improvement is obvious from our recent analysis which was as follows: water, 6·66 per cent.; fat, 6 per cent.; mineral matter, 6·65 per cent.; and nitrogenous matter, 80·69 per cent. The total nitrogen amounted to 11·55 per cent. Over 27 per cent. of the beef powder is soluble in cold water and over one-third of this is meat albumin which coagulates on boiling the solution. The cold-water solution gives the spectrum of hæmoglobin. The preparation is one that may be confidently recommended, since in it are preserved unaltered the entire constituents of raw meat. From it a juice containing meat albumin or a nourishing soup may very readily be prepared. It is obviously far superior to the ordinary meat extract.

[1] THE LANCET, June 1st, 1901.

FRIEDRICHSHALL MINERAL WATER.
(C. OPPEL AND CO., 10 AND 12, MILTON-STREET, LONDON, E.C.)

The Friedrichshall springs are situated in a charming valley in Saxe-Meiningen, Germany. The waters have long been known for their mild alterative and aperient properties which, as our analysis shows, are due to the presence of sulphates and chlorides of sodium and magnesium. Considering the mineralised nature of the water the taste is not so objectionable as might be supposed, owing probably to the preponderance of chlorides. Our analyses gave the following results expressed in grammes per litre: magnesium (Mg), 3·15; sodium (Na), 3·22; calcium (Ca), 1·00; sulphate (SO_4), 9·34 per cent.; and chloride (Cl), 8·69 per cent. The total saline constituents therefore amount to a little over 25 grammes per litre. Its aperient action is not drastic and a course of the water is unattended with objectionable results.

(1) PURGATIN; AND (2) TRIFERRIN.
(B. KUHN, 36, ST. MARY-AT-HILL, EASTCHEAP, LONDON, E.C.)

1. Purgatin is described as a derivative of the series of oxyanthra-quinones, a class of bodies to which belong the active constituents of such purging drugs as aloes, cascara sagrada, rhubarb, and senna. In appearance it is very like curry powder but uniformly crystalline. A dose as a mild laxative is from seven and a half to 15 grains, while if it is considered necessary as much as 30 grains may be administered without, it is stated, harmful results. Its administration produces a red discolouration of the urine due to the product of decomposition, anthra-purpurin, but the compound is said to be without irritation to the urinary organs. 2. Triferrin is the iron salt of nucleinic acid and therefore contains organic phosphorus. The proportion of iron is 22 per cent. and of phosphorus 2½ per cent. Triferrin is a brown rust-like powder which is not soluble in weak acids and hence it escapes the action of the stomach and passes into the intestines unchanged where it is absorbed. Clinical trial has shown that triferrin has a marked action in raising the proportion of hæmoglobin in the blood. It has no disturbing action upon the gastric organs, as have ordinary iron salts. Triferrin is a powerful hæmatenic.

(1) SOLUTION ADRENALIN CHLORIDE; (2) CASCARA EVACUANT; (3) ELIXIR GLYCERO-PHOSPHATES; AND (4) THERMOFUGE.
(PARKE, DAVIS, AND CO., 111, QUEEN VICTORIA-STREET, LONDON, E.C.)

1. The physiological effect of adrenalin is now well known and it is also recognised that the solution adrenalin chloride is the most suitable form for administering the active principle of the suprarenal gland. We have referred already in our columns to the isolation of this active principle (adrenalin) and to the preparation of its chloride by the Japanese chemist Takamine. The preparation may prove useful in some cases in which the control of hæmorrhage or bleeding is a desideratum. 2. Cascara evacuant is described as an active preparation of the unchanged bitterless glucosides of cascara sagrada. It possesses a distinct laxative or purgative action, according to the dose employed, without any griping or disagreeable effects. The preparation is a dark-brown fluid which is somewhat strongly

aromatised. From 10 to 15 minims suffice for laxative purposes, while twice those quantities respectively are suggested when purgative effects are indicated. The agreeable taste is decidedly in favour of the preparation. 3. The elixir glycerophosphates is satisfactory as regards both purity and stability and contains the true salts of calcium and sodium. The indications for its use are well known. 4. Thermofuge is the basis of an excellent antiseptic poultice. It consists of a specially prepared clay worked into a paste with powerful and agreeable antiseptics. Its application promotes in the strictest sense cleanliness of the part to which it is to be applied whilst it is soothing and, as its name implies, antiphlogistic.

IRISH WHISKY.

(DUNVILLE AND CO., ROYAL IRISH DISTILLERIES, BELFAST, AND 239, SHAFTESBURY-AVENUE, LONDON, W.C.)

Two specimens submitted to us for examination proved to be good typical Irish whisky. The analysis of the "Special Reserve" was as follows: extractives, 0·20 per cent.; mineral matter, *nil*; alcohol, by weight 39·80 per cent., by volume 47·13 per cent., equal to proof spirit 82·59 per cent.; and acidity reckoned as acetic acid, 0·02 per cent. The specimen marked "V. R." gave the following results on analysis: extractives, 0·12 per cent.; mineral matter, *nil*; alcohol, by weight 40·30 per cent., by volume 47·67 per cent., equal to proof spirit 83·54 per cent.; acidity reckoned as acetic acid, 0·01 per cent. Both specimens were remarkably free from the ordinary impurities of whisky, they contained, practically speaking, no extractives and no sweetening matter, while they were without any appreciable degree of acidity. The flavour is characteristic of Irish whisky, "smooth," and delicately malty and the colour somewhat pale.

MALTOVA.

(THE MALTOVA FOOD CO., 11, NEW STATION-STREET, LEEDS.)

The combination of an active malt extract with raw eggs is an excellent idea. Such a preparation is calculated to contain all classes of material suited for the repair of the body waste. Moreover, the combination of course contains lecithin, that curious phosphorised principle of nerve substance, brain, &c. That maltova is a genuine preparation is obvious from the facts: (1) that it readily transforms starch into sugar, and (2) that it yields a coagulum of albumin on boiling. The preparation is one of undoubted merit and may be justly reckoned as belonging to the class of specially nutritious foods.

BANQUET CREAM.

(HERBERT FRANCIS AND CO., 8, ARTHUR-STREET WEST, LONDON, E.C.)

Though sterilised this cream on analysis presents a uniformity of composition, and its taste, while suggesting a "scalded" flavour, is quite acceptable. Our analysis was as follows: moisture, 62·81 per cent.; fat, 18·12 per cent.; curd, &c., 18·57 per cent.; and mineral matter, 0·50 per cent. We could trace no objectionable preservatives or any additions calculated to give consistence to the cream. The cream is in a liquid state and is suitable for all the purposes to which fresh cream is usually put.

THE ARMSTRONG BEEF AND MALT WINE.

(JAMES MURRAY AND SONS, 34, GREAT CLYDE-STREET, GLASGOW.)

We are prepared to bestow praise upon a wine which can be shown to contain any important amount of the nutrient matters of beef in solution. Never in our experience, however, have we met with such preparations, a fact which is hardly surprising since the nutritious portions of beef are incompatible with a fluid of the alcoholic strength of port wine. At most a solution of the beef extractives can be obtained and these are, as is well known, of little nutrient value. The analysis of the Armstrong beef and malt wine was as follows: extractives, 10·63 per cent.; alcohol, by weight 17·25 per cent., by volume 21·19 per cent., equal to proof spirit 37·13 per cent.; fixed acidity, calculated as tartaric acid, 0·33 per cent.; volatile acidity, calculated as acetic acid, 0·06 per cent.; and total nitrogen, 0·14 per cent. It is obvious from the total nitrogen that the wine contains practically no beef derivative. According to our experience the idea that beef can be combined serviceably with wine is a delusion. It would be better to recommend a glass of good port with an ordinary biscuit. A biscuit contains much more nutriment than it is possible to dissolve in a glass of port wine.

(1) TABLOID LIQUORICE COMPOUND POWDER; (2) TABLOID KINO COMPOUND POWDER; (3) SOLOID MICROSCOPIC STAINS; AND (4) SOLOID INDIGO TEST.

(BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, LONDON, E.C.)

1. The tabloid liquorice compound is designed to meet the objection which patients exhibit to the ordinary powder. Each tabloid represents 30 grains of the compound liquorice powder. 2. A similar advantage is gained by the employment of the tabloid kino compound powder which besides is prepared with the purest drugs and may be relied upon to contain an accurate dose of the official preparation. The astringent properties of kino are well known, properties which have made it of service in the treatment of certain forms of diarrhœa and dysentery. 3. The convenience of possessing in the clinical laboratory a series of microscopic stains in soloid form is obvious since the soloid presents at once a standard amount of dye for preparing an aqueous or alcoholic solution. Time is saved and a solution in accordance with requirements is readily obtained. Since the soloids are prepared with dyes of ascertained purity much trouble is avoided and good uniform results are obtained, while their adoption dispenses with the necessity of keeping a stock solution in which state the dye is apt to deteriorate. 4. The soloid indigo test facilitates the detection of sugar in urine by the sodium nitrophenylpropiolate reaction. 10 mimins of the urine are mixed with three drachms of water. One soloid is next added and the liquid is boiled. In the presence of glucose the liquid will assume a blue colour owing to the formation of indigo. An important advantage of this test is that the reaction is not influenced by uric acid, creatinine, glycuronic acid, bile colouring, or by substances which may be contained in the urine after the administration of certain drugs.

SALUVINO CORDIAL.

(THE STANDARD WINE ASSOCIATION, 19, ST. DUNSTAN'S-HILL, LONDON, E.C.)

This is a somewhat sweet red wine with a peculiar aromatic flavour. The wine basis is said to be red Médoc. On analysis we obtained the following results: alcohol, by weight 15·67 per cent., by volume 19·28 per cent., equal to proof spirit 33·79 per cent.; extractives, 18·13 per cent.; mineral matter, 0·16 per cent.; fixed acid, calculated as tartaric acid, 0·25 per cent.; volatile acid, calculated as acetic acid, 0·09 per cent.; and sugar, 7·7 per cent. As will be seen, the wine shows the alcoholic strength of port wine. "Saluvino" is an agreeable stimulant and cordial and is of some value as a tonic, such value being referable, amongst other things, to iron and certain aromatics and bitters.

DIGESTIVE LENTIL FLOUR.

(THE DIGESTIVE FOOD CO., PAISLEY.)

Lentil flour has been justly described as the beef of the vegetable kingdom owing to its high proportion of proteid. The sample before us has been specially prepared with a view to raise its digestibility. One effect of this preparation, according to our analysis, has been to increase the solubility of the flour. Thus, on shaking up with cold water and filtering the liquid it will be found to yield a distinct coagulum on adding alcohol. Analysis gave the following results: moisture, 7·90 per cent.; proteid, 29·92 per cent.; and mineral matter, 2·60 per cent., containing a notable quantity of phosphates. It will be seen that besides a remarkable proportion of proteids the lentil flour contains also a relatively large amount of mineral salts of dietetic importance. The "digestive lentil flour" may be recommended.

THE LANCET.

LONDON: SATURDAY, MAY 24, 1902.

Feeble-minded Persons and Crime.

THE fact is now generally recognised that an appreciable number of men and women are feeble-minded owing to congenital deficiency without being either imbecile or insane. The larger proportion of these persons are males, of whom some tend towards dependency from want of power to support and to protect themselves, while others tend to lead criminal lives or to become themselves the prey of crime. Among the poorer classes many such persons, being without resources of their own and unprotected, fall to vagrancy and pauperism. In the wealthier sections of society the men fail to take any useful or creditable position, and the women if married lead most unhappy lives and become the mothers of children feeble like themselves. Elsewhere we publish a paper by Miss DENDY, an active member of the Manchester School Board, giving the social history of many feeble-minded persons as ascertained by careful personal inquiry. The reports on their mental defectiveness have been verified by Dr. HENRY ASHBY and Dr. G. E. SHUTTLEWORTH and the facts given show plainly the strong tendency of persons mentally feeble to fall into a state of pauperism and crime if left friendless, untrained, and unprotected.

There is ample evidence, to which Miss DENDY'S paper further contributes, to show that the offspring of feeble-minded persons, both men and women, usually inherit their defectiveness in some degree and that in this way the evil is perpetuated. But the inheritance of mental deficiency from one or both parents is not the only cause of the condition, and it is not safe to consider imbecility on a mere question of heredity. It is not uncommon to meet with examples where both the father and the mother of a feeble-minded child are above the average development of their respective families in mental ability, and a single case of defect among several intelligent brothers and sisters is often to be found; in fact, when there is marked evolution in a family there is often one instance of decadence, such misfortune appearing more often among the sons and frequently in the case of the eldest. Cases of congenital defect are more common among males, many of whom die in their first year, thus adding to the cases of infant mortality; and it is noticed that while the larger proportion of children born are males, after the first year girls predominate in numbers. Surviving cases of congenital defect form the subjects of grave social problems, for, uncared for and untrained, they tend to increase the criminal and pauper sections of our population. Special classes of instruction under the Defective and Epileptic Children Act provide day-school training for these unfortunate children up to 16 years of age, and a few educational homes have been established for the reception of children. There is no doubt an increasing feeling that more should be done for these helpless little ones. The Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded desires to found homes wherein cases that require continued protection may be received. We wish the society success in this work which may transform children apparently only a burden to themselves and the social scheme into more or less useful citizens. After several years of carefully planned training during school age feeble-minded children may be educated to be decent and self-helpful; intelligent speech and habits of orderliness and obedience can be acquired under control; moreover, their actions, movements, powers of seeing and of thinking may be cultivated up to the full brain capacity of the individual and thus their lives may be made happy and good. Defective brains may be much improved. Medical men of course know this, but we are laying a little stress on the fact here, as we hope that our readers will constitute themselves, when opportunity serves, the champions of the feeble-minded child. It is necessary to assure the public that the money required for the systematic training of these children is not thrown away. We do not attempt to deny that defective brains are always liable to lose the mental acquisitions gained under training. This, however, is not the case so much if the mind is kept alive by exercise. When the feeble-minded undertake industrial work they need to be taught to perform each process carefully and methodically, stage by stage, so that by practice they may be enabled to accomplish something towards their maintenance. Homes in which such graduated and well-ordered instruction can be given can never be really self-supporting, but they are greatly needed to save many women and men from a life of degradation.

The number of individuals who require this systematic attention from their early youth is undoubtedly large, but we think that Miss DENDY has put the figure too high. She states that "2 per cent. at least of our school-going population are in some degree weak-minded." The Departmental Committee of the Educational Board on Defective and Epileptic Children reports that "approximately 1 per cent. of the children of the public elementary school class appear to be feeble-minded." Dr. FRANCIS WARNER in his evidence before that committee stated that among 100,000 children he found 930 mentally deficient, but the schools which were examined included many under the Poor Law and Home Office where the percentage of feeble-minded is higher than in elementary schools. Among public elementary schools with 86,000 children actually in attendance (1892–94) 0·65 per cent. were stated by the same observer to be feeble-minded. As a matter of fact a great deal of discrimination is required in order to ascertain these figures with irreproachable accuracy. Among 100 cases collected by teachers and visitors as "exceptional cases" and examined for the Charity Organisation Society Dr. WARNER reported 32 cases as "not exceptional,"[1] a fact which indicates that careful examination and diagnosis of feeble-minded children are necessary in all schemes designed for their care. The Elementary (Defective and Epileptic Children) Act, 1899, provides

[1] THE LANCET, Feb. 6th, 1897, p. 374.

that "for the purposes of ascertaining whether a child is defective or epileptic within the meaning of this section, a certificate to that effect by a duly qualified practitioner approved by the Education Department shall be required in each case. The certificate shall be in such form as may be prescribed by the Education Department."

What is a "Cure"?

MEDICINE presents many problems to her faithful followers. One, however, may fairly be considered to be the greatest of them all, whether on account of the extreme difficulty offered to its solution or because of the fact that it arises in connexion with almost every case that the physician treats. This problem is to decide how far the effects of given therapeutic measures have resulted in a "cure"—a word that the medical man, knowing its full significance, seldom employs without reservation. It often enough occurs, happily, that treatment is given and disease disappears. How often can the medical man say with certainty that the disappearance is due to the remedy, that without it the disease would have persisted, and that nature could not quite as well have effected alone what medicine has accomplished with her aid? This question which must constantly recur to every thoughtful practitioner has formed the theme of a presidential address recently delivered in the Section of Medicine of the Intercolonial Congress of Australasia by Dr. JAMES JAMIESON, lecturer on medicine in the University of Melbourne. In Dr. JAMIESON'S address the crux of the question discussed was not, as might possibly be surmised, the temporary or permanent nature of the changes regarded as cure but whether this change is always simply brought about by nature's undoubted beneficent processes or whether therapeutic measures do considerably help, modify, or even actually cause these processes. The answer of modern medical opinion to the question, "Can we cure?" partakes strongly of the nature of modified scepticism. Medicine labours to be scientific and the essence of science is a sceptical attitude towards the unproven. It is the proof of real effects that is so hard to substantiate in the matter of therapeutics. Consequently medical men of scientific training necessarily start with a sceptical attitude even towards the results that they themselves apparently have achieved.

This attitude, however, as Dr. JAMIESON points out, is a comparatively new one among practitioners of medicine. Until the time came when medicine was founded on science medical men shared with the general public a blindly trusting faith in the efficacy of all kinds of empirical remedies. Not until the beginning of rational scientific medicine did it occur to men to doubt whether an illness which was recovered from when certain drugs had been administered could have righted itself without these medicines. Such doubts arise directly the administrator of drugs has an insight into the physiological working of the machine the disorders of which he seeks to rectify. Beholding the complexity, the adaptability, and the various nature of the component systems of the human organism he suspects in it an almost infinite capacity for readjusting disordered processes or for expelling injurious influences. Thus he is led away from a vigorous, often harmful, empiricism into a watchful, perhaps even a timid, attitude in the treatment of disease. According to Dr. JAMIESON, the physician's scepticism as to the potency of drugs is still quite unshared by laymen who, if they often blame a medical man for failure that is unavoidable, perhaps equally often give him credit for results due entirely to the operations of nature. It is not surprising that the ordinary individual should be slow to change his faith in the unerring efficacy of drugs when we remember that it is really only within the last hundred years or so that medical men have given up an equally rooted belief, the cherished tradition of centuries. Yet, further back still, in the time of HIPPOCRATES, we find a view of disease that is as rational if not so fully informed as that of the most cultured physicians of to-day. HIPPOCRATES scouted the notion that any disease came as an affliction from the gods and declared that all illness had its origin in natural causes. He laid great stress upon prognosis, which can be safely founded only upon a knowledge of the natural course of disease. Followers in the footsteps of HIPPOCRATES doubtless there have been among physicians in all ages, but till at least the early part of last century the medical mind, as a whole, was deeply, and honestly, impressed with the power of therapeutic measures to determine the course, and actually to bring about the cure, of all diseases. To-day we are obliged to regard as at present unknown the really curative agents for very many disorders, but happily together with this well-founded scepticism of therapeutic effect in many cases we have justified ourselves in the use of drugs and of therapeutic measures in other instances where the undoubted benefits that these bring are based upon a sure and scientific understanding of the etiology and pathology of the conditions successfully treated. Antitoxin in diphtheria, thyroid gland in myxœdema, and the nitrites in angina pectoris, are only some of the fruits of the scientific study of medicine that we may name in support of the well-founded, if limited, therapeutic faith that replaces in the mind of a modern practitioner the wide but ignorant credulity of his predecessors.

An interesting passage in the address which has inspired these remarks points out how the rise of homœopathy, mistaken though its tenets are, helped in the destruction of a blind faith in the curative powers of drugs. It was not that HAHNEMANN himself was sceptical but those who could not accept the fundamental doctrines of homœopathy, or its peculiar mode of practice, were at any rate obliged to admit that results equal to those from their own practice often attended a method of treatment which was tantamount to giving no drugs at all. Thus, inquiry was naturally stimulated as to the course of disease if untreated and as to the actual effect or importance of medicines hitherto regarded unhesitatingly as actively beneficial. The best physicians felt that very likely they could not do much in the way of directly curing disease and that the first thing was to try to understand it. Thus followed a general return to the Hippocratic standpoint. Men saw that they could not tell with any approach to certainty what the effect of treatment was, or might be, if they could not predict what the progress of a case would have been had the patient remained untreated. Upon an open-minded observation of disease follows some

understanding of the means and processes by which nature contrives recovery. Disease is seen to be a disturbance of physiological processes. As the organism is subject to constant changes so diseases, too, to a greater or less extent, suffer variations. It is this variability, Dr. JAMIESON points out, this constant waste and renovation of body-structures, that makes recovery or cure possible. It may have had a manifest external cause, but in its essence disease is only a modification of natural processes and cure must be accomplished by similar processes. To say this is not to declare that art cannot intervene and by removing injurious influences give that turn to natural processes which determines the occurrence of cure. But it is only by knowing nature's own method of cure that we can find rational basis for our therapeutic endeavours. The first of these natural processes would seem to be removal of the cause of the disease. It often happens, though, that, the primary cause ceasing to act, the disease still continues. This may be through the evil intervention of other causes the influence of which the state of the organism induced by the primary cause has made potent. It is particularly in the recognition of these secondary causes and in the discovery of methods for removing and controlling them that modern medicine has made progress and is hopeful of still wider conquests.

The discovery of the bacterial origin of infective diseases must be regarded as a fine example of the recognition of cause in disease. Together with the constant endeavour to trace cause must go the physician's unwearying effort to recognise the signs of nature's own curative efforts. Otherwise he will find himself combating symptoms that are a necessary accompaniment of reparative processes. Moreover, without such observation of natural progress to recovery no imitation of natural repair can be intelligently instituted. Dr. JAMIESON in his excellent address shows how such observation has in several instances made successful imitation of natural cure possible and his words leave us convinced that the modern scientific sceptical attitude towards remedies in general has already led to therapeutic discoveries of the highest importance and benefit and should give us confident hope that more diseases will in the near future come within the range of a rational system of healing.

The Etiology of Typhoid Fever.

THERE are certain factors in relation to the etiology of typhoid fever which are now generally accepted as proved but in regard to others much difference of opinion and doubt still exist. That the organism first described by EBERTH holds a direct causal relationship to the disease is certain, although some of its characteristics and properties are still under investigation. Water is universally recognised as the medium through which the disease is most commonly and extensively spread but there are undoubtedly other means by which the disease may be contracted which are less recognised. Dr. W. H. CORFIELD[1] in the Milroy Lectures which he recently delivered at the Royal College of Physicians of London gave an elaborate historical account of typhoid fever, full of interest as showing the various phases of thought through which medical observers have passed at different periods during the progress of medical science. He brought his survey up to the most recent times, thus presenting the profession with a most valuable *résumé* of the work which has been accomplished with reference to the origin and mode of spread of typhoid fever. Dr. THOMAS CHERRY[2] in an address delivered before the sixth session of the International Medical Congress of Australasia, held at Hobart in February of this year, also made some interesting remarks on the same subject.

For the purposes of prophylaxis it is, of course, of the utmost importance to ascertain the length of time during which the typhoid bacillus may remain in the tissues of the body while still retaining its potential infectivity and also the conditions under which the bacillus can exist outside the body. Both the lecturers above mentioned referred to observations which had been made in order to obtain information on these points. Dr. P. HORTON-SMITH[3] in the Goulstonian Lectures delivered before the Royal College of Physicians of London in 1900 quoted cases in which it had been proved that the typhoid bacillus persisted in the body, especially in the bile, for three months after the fever in one instance, in another case for eight months, and in a third case after an interval of seven years. The most remarkable case of all, however, and one very carefully tested, is that recorded by Dr. VON DUNGERN in which, fourteen and a half years after the attack of the fever, the bacilli were still present in pure culture "in the pus." Dr. SIDNEY H. C. MARTIN found that the bacillus, when implanted in organically polluted soil, "speedily increased and spread abroad," whereas in an unpolluted soil from an uninhabited and uncultivated area "it languished and quickly died out" under like conditions of temperature and moisture. One of Dr. MARTIN'S most important conclusions is that the soils which are favourable to the growth of the typhoid bacillus are those which have been cultivated—more particularly soils of gardens and the *entourage* of houses. In these soils the bacillus was found to be alive and to have retained its vegetative properties for as long as 456 days, this being found true for sterilised soil which was moistened throughout with water. On drying this soil, even when it had become so dry that it could be made into a fine powder, the bacillus could still be obtained from it and had retained its vegetative properties. Virgin soils, sandy or peaty, were found to be absolutely inimical to the growth of the organism. Dr. CHERRY quotes a case reported by Dr. P. H. METCALFE which occurred in Norfolk Island (lying 1100 miles from both New South Wales and New Zealand). In 1868 there had been an epidemic "of some kind of fever" on the island. No further cases occurred till 1877 when a man was reported to have died from fever. In January, 1880, a typical case of typhoid fever occurred at the mission station in a man who had arrived in the island in the previous September. On investigation it was found that he was the only person in the island who drank the

[1] THE LANCET, March 22nd (p. 793), April 5th (p. 942), 12th (p. 1013), and 26th (p. 1156), and May 3rd (p. 1231), 1902.

[2] THE LANCET, April 19th, 1902, p. 1141.

[3] THE LANCET, March 24th (p. 821) and 31st (p. 910), and April 14th (p. 1050), 1900.

water from a well with a bad reputation. Dr. METCALFE thought that only two hypotheses to account for the fever were possible—either that the patient carried the contagion with him for fifteen months (i.e., since he left England) or else that the disease originated *de novo*. Dr. CHERRY adds three other suggestions, which he admits are all very difficult of acceptance: (1) that the typhoid bacillus may have been in the polluted well for several years; (2) that some of the islanders had been carrying it about in their bladders or intestines for a similar period; or (3) that the attack was caused by Gärtner's bacillus which existed in the well. Dr. CORFIELD and Dr. CHERRY further refer at some length to the various channels by means of which the fever may be spread. They both agree that water, milk, and food are chiefly to blame for its dissemination, but that in hot countries, at least, flies and dust have a considerable share in bringing about this contamination. Dr. CORFIELD also refers to a discussion which took place at the Epidemiological Society in 1900 in which, from the remarks of the different speakers, it was evident that there was great unanimity of opinion, not only among the inspectors of the Local Government Board but among medical officers of health throughout the country, that communication by direct contagion is a much more common cause of spread of typhoid fever than is generally supposed.

The above considerations suggest many indications as to the basis upon which preventive measures against typhoid fever should be founded. To quote the words of Dr. HORTON-SMITH: "Truly no longer can we say with Dr. BUDD that 'by destroying the infectious power of the intestinal discharges the disease may be in time finally extinguished.' So far, indeed, from the stools being the only agents by means of which the disease is spread, they are but one of a series of agents. So far, too, from the patient ceasing to be a source of danger after his restoration to seeming health, he may carry about in himself the seeds of infection for months and even years." Many public improvements in towns and country districts have coincided with a reduction in the prevalence of typhoid fever, such as the drying of the soil, reduction in the crowding of houses, and the substitution of an ample supply of good water for a scanty and impure supply. It is, however, as the late Sir GEORGE BUCHANAN pointed out, the purification of the atmosphere from decomposing organic matters that has been most uniformly followed by a fall in the prevalence of typhoid fever. This fact would bear out the suggestions that have been made as to the etiology of the disease which we have been considering—that although water is the most common medium for conveyance of the pathogenic bacillus yet other sources of contagion occasionally play a part, and it is therefore necessary to take all precautions to ensure not only that the water-supply of a town or district is pure but also that the disposal of sewage and waste organic matters of every kind is properly provided for.

CHELTENHAM GENERAL HOSPITAL.—The committee of the Cheltenham General Hospital has had the offer of an anonymous gift of £1000 to endow a bed subject to the condition that no anti-vaccinationist should be eligible to occupy it.

Annotations.

"Ne quid nimis."

FUSS AS A MARK OF MODERN CIVILISATION.

EVEN the dry text of a Parliamentary paper may afford material of more than purely political interest. The recently published report of the Committee on Shipbuilding for the Navy contains a suggestion which we cannot pass over without comment. It is that in which Sir Francis Evans condemns the present system of inspection in detail, a minute and vexatious process, and maintains that contractors of character and position should be frankly taken into the confidence of the Government and allowed a reasonable latitude and initiative as its collaborators in the national interest. There is an obvious good sense about this proposal which cannot be seriously discounted unless we are to admit a practical failure of intelligence and of commercial probity among the heads of a most important and peculiarly British industry. But the subject with which it deals is wider than any one field of manufacturing activity. Whatever the work to be done unnecessarily close inspection is more likely to act as a cause of obstruction and delay than as a stimulus to success. Where such intervention is official it is usually far from unintelligent but if needless and untimely it may do harm nevertheless. It is refreshing in these days of nervous overzeal to find a Parliamentary committee that is candid enough to admit this. There are other cases where supervision is gratuitous and irresponsible and can claim no excuse either in the obligations of office or in the possession of special knowledge. In such cases it is as far removed from intelligent criticism as it is nearly allied to meddlesome curiosity. It is to this kind of investigation that medical practice is at times particularly liable. A distinguished person is ill and forthwith every incident in his condition is focussed by industrious interviewers as if they acted for a jury of physicians. All that his countrymen wish to know is whether he is better or not. In addition to information on this all-important point they are treated to minute details of pulse, respiration, temperature, drugs, and perhaps of something approaching to sick-room gossip as well. Meanwhile his attendants, evidently not having enough on their hands already, are liable to be pestered with suggestions for treatment derived from all imaginable sources. All this does not make for recovery. Much the same thing happens when there is news of a reverse at the seat of war. We have only to invert the telescope in order to find the civilian from his writing-table at home carefully endeavouring to instruct the soldier in his duties regardless alike of military methods and of local conditions. Other examples of a like nature might be quoted but the foregoing will suffice to direct attention to a quality of mind which appears to be increasingly prevalent among a certain class of writers and talkers and which cannot be regarded as a sign of healthy social life. It is not vigilance or prudence or deliberate and considered judgment; it is not even a natural and rational anxiety, though it may exhibit itself in the guise of any one of these. It is mere fussiness. Serving in itself no profitable purpose, it mingles with and impedes every useful work, damping energy and discouraging initiative and the sense of responsibility in those engaged in it. All the while it may be preaching moderation, patience, and self-control. This neurosis is not confined to any people or part of the civilised world, though it seems to be more prevalent in some quarters than elsewhere. Wherever there exists a suitable soil in the form of an intellect equipped with the visual organs of education but without

corresponding reflective power and self-restraint there the morbid germ develops until it may even become epidemic over a wide area. We have already noticed some of its manifestations and have referred to the instability of will and the incoördinated action which are its natural consequences. In these circumstances its effective treatment is obviously most desirable. Fortunately it is a true functional disorder and there is no reason to regard it as incurable. If only the exciting cause be frankly recognised and grappled with much will have been done towards providing a remedy. In order to arrive at a successful result, however, it is necessary to begin by admitting that scrutiny in technical matters, even by those whom it may concern, may be overdone. It matters little whether it be carried out by a subordinate Government official, by an over-zealous pressman, or by a private individual more eager than judicious; if superfluous the effect is the same. To let well alone is an axiom synonymous with sound practice. To say that details of matters not belonging to the province of common knowledge should be left in the hands of selected and competent persons is another way of expressing the same truth. The contrary method, that of prying and open-mouthed publicity, is incompatible with successful business, with the public service, and with the very desirable extinction of the alarmist neurosis.

NICETIES OF NURSING.

THAT a good nurse must have other qualities besides a sufficient knowledge of, and skill in, her profession is as plain to all who have had the misfortune of being "patients" as it is that similar advantages are necessary in a medical man if he is to be, not only a safe, but also a welcome, adviser. For a nurse, indeed, these qualities, which we may take to be tact, sympathy, and the knack of doing the right thing with the least possible unpleasantness, are even more essential than they are in the practitioner's case, for he sees comparatively little of his patients, while the nurse is to a large extent constantly present. The modern nurse is such a vast improvement professionally upon her predecessor and her position in the sick-room and in the hospital is so well established and generally so well filled that she is apt to overlook or to forget the great importance of being pleasant and considerate as well as professionally accomplished. The old-fashioned nurse was of very little benefit to her patient in illness and the modern nurse seems sometimes to imagine that it is for her benefit that the patient is ill. She demands sometimes little attentions and consideration which really it is her duty to supply. It is particularly, of course, in private houses that a selfish or a thoughtless nurse can make her presence a necessary evil instead of being a grateful source of ease to her patient. Many of the little extra points by attention to which a nurse can multiply many times the gratitude of those in her charge are given in an address on the "Little Niceties of Private Nursing" by Mrs. Emily F. Stewart Brown, lady president of the Liverpool Hospital for Women. The address contains, moreover, some directions bearing upon small points in a nurse's actual duties of much importance but often neglected in private nursing where the conveniences of a hospital and the watchful eye of a superior may be alike absent. Mrs. Stewart Brown's advice is contained in a series of "Don'ts" and is based upon true instances. We pity the patient whose experience of nursing provided Mrs. Stewart Brown with this succinct prohibition, "Don't cultivate a love for the succulent onion." A wise injunction to nurses engaged in private houses is "Don't forget that illness upsets the routine of a household, and make things as pleasant as you can; if you don't your meals will be anything but elaborate and the attention you will receive very limited." Mrs. Stewart Brown is not in her address concerned with the other side of the question, or we can well imagine a series of "Don'ts" applicable to people who employ nurses and who are sometimes strangely inconsiderate in what they expect at a nurse's hands. Sometimes there is a tendency to overlook the fact that a nurse needs food, sleep, and some comfort even as ordinary persons do—still more than other folks, perhaps, when engaged upon an arduous case. To very many nurses, we are glad to know, most of Mrs. Stewart Brown's prohibitions are superfluous; by none, however, can they be read with anything but pleasure and by most, we are sure, with very great advantage.

SUCCESSFUL TREATMENT OF PARENTAL NEGLECT.

REFORMATION rather than punishment has always been the aim of the National Society for the Prevention of Cruelty to Children. It affords protection to helpless children but it does more than this. It endeavours to awaken, if possible, in defaulting parents a desire to do likewise. Two cases mentioned in a recent issue of the society's periodical go to prove that its efforts in this direction have not been altogether unsuccessful. In each instance a drunken mother had grossly neglected her duties to her family and had been sentenced to a term of imprisonment. Both women after their liberation abandoned the drinking habit, became industrious, maintained their children in sobriety and comfort, and eventually returned to thank the agents of the society for what it had done for them. This, we are assured, is the kind of work which is being carried on throughout the country. We believe the statement though we are also alive to the fact that actual punishment is not lightly resorted to. These cases are their own commentary. They show that a penalty when judiciously employed may and does act as a stimulus to the parental sense of responsibility. There must be few persons who do not join us in the hope that such work may continue.

THE THERAPEUTICS OF THE X RAYS.

THE value of the light treatment in lupus and in certain cases of superficial malignant disease, particularly rodent ulcer, is now established. But the permanency of the "cures" which have been obtained and the utility of the treatment in other forms of malignant disease and in other diseases remain to be determined. In the *Journal of the American Medical Association* of April 12th Dr. Allen Pusey, professor of dermatology in the University of Illinois, has published a well-reasoned paper which tends to show that the field of utility of the x rays is greater than that in which they have been employed in this country. He describes 36 cases of various diseases, principally malignant, and gives 24 excellent illustrations showing the condition before and after treatment. His results therefore cannot be gainsaid. In lupus they are simply confirmatory: the x rays cause the disease to disappear and yield white, soft, pliable scars which could not be less extensive under any other method. Even in the case in which the longest interval—18 months—had elapsed since recovery there was no sign of recurrence. Eight consecutive cases of "epithelioma" (most, if not all, of them appear to be cases which in England would be termed "rodent ulcer") were treated successfully, the ulcer being replaced by healthy scar. One case "was beyond relief by any other method" and Dr. Pusey with pardonable pride claims it as "unique." A man, aged 35 years, came under treatment. 11 years before a small nodule appeared on the right cheek below the eye. It gradually enlarged and after

two years it ulcerated. Five years later a radical operation was performed; the ulcer and a large amount of the surrounding tissue were removed. The lower eyelid had to be restored by an extensive plastic operation. After a year recurrence took place and the orbit became involved. The disease was so extensive that a surgeon would not operate. The entire orbit, both eyelids, the side of the nose and the cheek were involved. The eyeball was shrunken and retracted in the orbit. Microscopical examination confirmed the diagnosis of epithelioma. The eyeball was removed but this did not relieve the severe pain. Exposures to the x rays were given almost daily until erythema and slight desquamation were produced. Within a week the pain ceased and the discharge diminished. The borders and the nodules shrank and the ulcer began to heal. The surrounding tissue became smooth, soft, moveable, and free from induration. After three months the ulcer was almost healed and the patient had regained health. Sections of the border of the ulcer made before and after the exposures demonstrated the effect of the treatment: the abundant downgrowth of epithelium was replaced by a degenerated, structureless, wavy substance. A very similar case has recently been recorded by Dr. G. Stopford Taylor.[1] In three cases of recurrent cancer of the breast remarkable benefit was obtained. Thus in one case the skin and subcutaneous tissue for an area six inches in diameter round the scar were infiltrated with cancer and there were ulcerating nodules. Four months after the treatment was begun all traces of cancer had disappeared. In three other cases, however, the treatment failed. In lymphadenoma exposure of enlarged glands to the x rays was followed by almost complete subsidence and improvement in the general condition—for example, the hæmoglobin in the blood increased from 50 per cent. of the normal to 80 per cent. Of course, the question whether the improvement in all these cases will remain permanent cannot yet be answered. But even if it does not the striking benefit obtained in the inoperable cases of cancer is sufficient to make the light treatment a valuable addition to therapeutics. Moreover, in case of recurrence it may yield in turn to the same treatment. Dr. Pusey's paper is all the more valuable because he does not attempt to claim too much. He points out that the advantages of the x-ray treatment are: (1) that it is painless; (2) that it destroys diseased tissue but leaves healthy tissue in its place; (3) that it leaves small scars; (4) that it can be used when the surrounding healthy tissue cannot be sacrificed (in operations about the eye and nose); (5) that it is applicable in inoperable cases; and (6) that it often relieves pain. With commendable caution he does not advise the use of the x rays for operable malignant growths except for "cutaneous carcinoma" (rodent ulcer). On the other hand, he thinks that the x rays should be used as a prophylactic measure in all cases of malignant disease which have been operated upon and should be tried in all inoperable cases—in which there are a probability of relieving pain and a possibility of inhibiting growth.

[1] THE LANCET, May 17th, 1902, p. 1395.

THE MEDICAL ORGANISATIONS OF FOREIGN ARMIES.

WE desire to call attention to a very useful little official handbook dealing with the medical organisations of foreign armies (chiefly for war) which has been compiled by Lieutenant-Colonel Frank Howard, Army Medical Staff (retired pay), and is issued by authority. A brief description is given of the army medical organisation of some 20 foreign countries. The information, which must have cost the writer much care and labour to get together, strikes us as being clearly and succinctly epitomised, and, setting aside any intrinsic interest attaching to the subject, the manual supplies a want on the part of army surgeons who will be required to show some knowledge of it in their future examinations for promotion. Readers of the handbook will naturally turn first of all to the medical organisations of the armies of Germany, France, America, Russia, Austria-Hungary, and Italy. Speaking generally, there is a great similarity, on the whole, in the army medical organisation, arrangements, and transport of the different military powers; they all recognise very much the same aims and principles, although there are, as might be confidently expected, some diversities of procedure—of ways and means and details—in carrying them out. The handbook is a little mine of compressed information which does not easily lend itself to review, but we may say that the sections devoted to France, Germany, America, and Japan seem to be full and precise. We should add that the price of the handbook is 1*s*.

THE LATE MR. BRAXTON HICKS.

WE regret to see the announcement of the death from pneumonia on Saturday last of Mr. Athelstan Braxton Hicks, coroner for the South-western District of London and for the Kingston Division of Surrey. Mr. Hicks, who was a legal coroner, was a son of the late Dr. Braxton Hicks, the distinguished obstetrician, and was, we believe, at one time intended for the medical profession and studied for some years at Guy's Hospital. He eventually, however, was called to the Bar and in 1883 was appointed deputy coroner for Mid-Surrey and subsequently deputy-coroner for the City of London, the Borough of Southwark, the City of Westminster, and Western Middlesex. In 1885 he became coroner for Surrey in succession to the late Mr. George Hull. On the passing of the Local Government Act and the formation of the administrative county of London his district was divided and he became coroner for South-west London and the Kingston division of Surrey. Mr. Braxton Hicks was at the time of his death Vice-president of the Coroners' Society; he also was, and had been for many years, secretary of the society and had a wide knowledge of the laws appertaining to the duties and position of coroners. We have frequently been indebted to him for information of this nature which was always freely and promptly placed at our disposal. As a coroner he performed good public service in many ways. He was largely responsible for the licensing of small boats and did much to bring about an alteration in the law with regard to the sale of carbolic acid. He also missed no opportunity of exposing the evils of baby-farming, and up to the time of his death was engaged in impressing upon the poorer classes of the public the necessity of the provision of fire-guards to protect their children from accidental burning.

A CASE OF ABNORMALLY HIGH BRAIN-WEIGHT.

AN interesting case of abnormally high brain-weight in a man who died at the age of 37 years in an asylum, but who, until the age of about 35 years, had his mental faculties practically normal, is published in the *Journal of Mental Science* for April last by Mr. John Sutcliffe and Professor Sheridan Delépine. The brain belonged to a man who was by profession an accountant and estate agent, a sober, steady, hard-working man, who had built up a good business. He had married at the age of 21 years and was the father of four children. He had had good health till the age of 22 years, when epileptic fits began to appear, one fit occurring at intervals of two or three weeks. When 25 years old he was assaulted and knocked down and remained unconscious for three days. Since then the fits became severe and frequent and he also suffered from headaches. For some months before admission to the asylum at Cheadle—viz., Feb. 6th, 1900—he had been suffering from delusions of

poisoning and from excitement. The symptoms on admission were those of epileptic insanity but they passed away while under treatment and he was discharged as recovered. His malady recurred in January, 1901, and he was readmitted to the asylum. His condition was then grave, he had frequent epileptic attacks, his delusions were re-established, and there was optic neuritis. He died in a state of coma on July 22nd. Post-mortem examination showed that the brain was enlarged generally, and that the cerebral convolutions were flatter and broader than normal. The entire brain (cerebrum, cerebellum, and pons) weighed 69 ounces. The naked-eye distinction between grey and white matter seemed to be obliterated in sections of the convolutions and microscopical examination showed diffuse hyperplasia of the neuroglia elements throughout the brain, the overgrowth giving rise here and there to masses of soft neuroglia. The case was one of so-called diffuse "hypertrophy of the brain"—really a hyperglíosis—which accounted for the abnormal increase of weight. The heaviest normal brains hitherto recorded were those of Cuvier the naturalist, which was 64½ ounces, and of Abercrombie the physician, which weighed 63 ounces.

THE DISTRIBUTION OF PLAGUE.

IN Cape Colony during the week ending April 26th, 11 cases remained under observation, all Europeans, 6 of whom were males and 5 were females. The distribution of plague throughout Egypt during the week ending May 11th was as follows: 1 case and 1 death at Alexandria, 4 cases and 2 deaths at Deshneh, 1 case and 2 deaths at Tala, 3 cases and 1 death at Maghagha, 10 cases and 2 deaths at Toukh, 1 case and 1 death at Shebin El Koum, 1 case and 1 death at Ashmoun, 7 cases and 2 deaths at Samalout, and 1 case at Menouf, making a total of 29 cases and 12 deaths. Cases have been reported from Kolosneh in the Markaz of Samalout, and at Minieh Moudirieh, which is not very far from Maghagha; 1 case was notified at Shebin El Koum and other cases at Syaffa, Tant El Ghezireh, Bir El Shems, and Kafr El Faranieh. All these are small villages situated close to others in the Moudiriehs of Galioubieh and Menoufieh. Our Brazilian correspondent, writing from Recife, Pernambuco, during April, says that the bubonic plague has broken out in Recife. He continues: "Plague was first imported into South America in 1899, when it appeared in the slums of Rio Janeiro. The present is its first appearance in the State of Pernambuco and it is supposed to have been imported by a Spaniard who travelled by train from Santos. This man's illness was notified as plague to the Public Health Committee on March 28th by Dr. Simões Barbosa. The patient was 24 years of age and died five days after the onset of the febrile symptoms. He had a bubo in the left groin and another in the right axilla. A microscopical examination of his blood was made by the Government pathologist and the Kitasato cocco-bacillus was found in it. The pus of both buboes was examined with negative results but some of the pus injected into a rabbit gave rise to all the symptoms of plague and killed the animal on the fourth day. Up to the present date 48 cases of plague have been reported and 29 deaths have occurred. The port is in quarantine by sea and land and everyone who wishes to leave Recife by ship or by train is obliged to undergo disinfection. The disinfection is thus carried out. The person lies for a quarter of an hour in a bath of formol solution, then he is washed down with a lather of corrosive sublimate soap, and afterwards dried. His clothes are put into an *étuve* and cleansed by dry heat. At first when the pest declared itself there was no place in which the sick might be looked after and properly isolated. They were left in their own houses, which were guarded by soldiers, and were visited only by the public health officials. The populace was in a state of panic just then and trained nurses could not be obtained. Nearly every one of the first 20 cases died. Later an isolation hospital was opened at Pina on a small island a mile distant from the town of Recife. Patients are now taken there in a specially-appointed boat. On their arrival they are well nursed and cared for and a microscopical examination of blood and dejecta is undertaken in every case. One type of case has hitherto predominated and its course is as follows. After an incubation period of only two days there sets in a prodromal stage of malaise, rigors, vertigo, and dull aching at the seat of the future bubo. After two or three hours the first stage begins, with rise of temperature, staggering, prostration, intense thirst, and loss of voice. The face is haggard and terrified-looking and the eyes are bloodshot, staring, and sunken. There are vomiting and much diarrhœa. Death occurs with a gradual weakening of the action of the heart and is preceded by much cyanosis. Hæmorrhages of all kinds are frequent. The fever lasts for about a week in favourable cases and defervescence is by lysis. In this epidemic all the patients who lived more than four or five days developed buboes. The swellings were generally in the glands of the femoral triangle and discharged pus and débris when incised. The resulting wounds, especially when septic and occurring in asthenic patients, took a long time to heal and formed large indolent ulcers. The treatment adopted here has been, and is still, mainly symptomatic. The chief antipyretic measure employed is cold sponging; morphine is given for sleeplessness and strychnine is given throughout. The buboes are incised early and are dealt with on ordinary surgical principles. There are several advertisements in the local papers inserted by medical men referring to the prophylactic inoculation for plague as practised by Haffkine. So far as I have been able to learn Yersin's serum, which was so successful in China and so useless in India, has not been tried in Recife. It seems that the plague is already slowly diminishing, but some of the conditions of life under which it started are much as they were before in spite of the efforts of an enlightened Public Health Committee. Just before the outbreak there had been a spell of extremely hot dry weather and the general health of the public was of a low standard. The soil and streets were abundantly saturated with animal and vegetable refuse; there were crowds of vermin, flies and mosquitoes, and rats and mice. The houses of the poor are ill-drained, ill-lighted, and ill-ventilated. The people are careless, idle, ill-washed, ill-fed, and ill-clothed. Their thoroughfares are narrow, unwatered, and stink of accumulated garbage. Dead rats, mice, and lice lie about the place. Quite recently the bishop spoke of this state of things from the pulpit and referred to the plague as a visitation of God. I beg to acknowledge my indebtedness to Dr. Alves Pontual of this town for most of the details here set down." For the week ending May 17th 31 cases of bubonic plague and 34 deaths have been notified at Hong-Kong.

A CHILDREN'S AMBULANCE SERVICE.

THE crippled children of the poorer classes are in several respects entitled to our sympathy, for their prospects in life are not of the brightest. Not only does their physical infirmity restrict their choice of an occupation but it has the further disadvantage that during early life it seriously interferes with their attendance at school or may even render it almost impossible for them. In London, however, this difficulty has been surmounted by the thoughtful care of the School Board which has provided a service of well-equipped vehicles for the conveyance of these helpless ones to and fro between their homes and the schools. The word "ambulance" may perhaps at first sight seem to

be not altogether appropriate in this connexion, but the designation is nevertheless quite correct, for the vehicles are fitted up with special invalid couches and have removeable stretchers on which pupils may, if required, be conveyed undisturbed from their own apartments to their places in the class-rooms. The vehicles are constructed to carry seven or eight children, together with the nurse in charge. They have a neat appearance, resembling that of a small omnibus.

ARTHUR MARTIN-LEAKE, V.C.

WE announced last week that His Majesty the King had awarded the much-coveted decoration for valour, the Victoria Cross, to Surgeon-Captain Arthur Martin-Leake, of the South African Constabulary. Surgeon-Captain Martin-Leake is one of the four sons of a well-known barrister, the late Stephen Martin-Leake, author of an excellent legal text-book. After leaving Westminster School he received his medical education at University College Hospital, the choice of hospital being dictated by the fact that his uncle by marriage, the late Sir John Russell Reynolds, who had a great regard for him, was consulting physician to the institution. When the news of the early disasters attending the South African campaign reached England Arthur Martin-Leake, who had served his time as house surgeon at University College Hospital, volunteered for service as a civil surgeon. The War Office, however, stated that no more surgeons were required for the forces—at that time such was the stereotyped answer given to medical men who offered help. He therefore went out as a trooper in the Herts Yeomanry. After a year's service he was given a civil post on the medical staff at Pretoria and again about a year later was appointed to the South African Constabulary, in which service he has literally covered himself with glory. Mrs. Martin-Leake, his mother, may well be proud of her family, for the wearer of the Victoria Cross is one of four sons who are actively serving the Empire. One is a captain in the Cheshire Regiment now serving in South Africa; another is in the Royal Engineers, and was in Peking during the *émeute;* and a third is in command of H.M.S. *Bramble* now in Chinese waters. We congratulate Surgeon-Captain Martin-Leake upon his splendidly earned distinction.

GAS AS A SOURCE OF POWER.

APROPOS of Sir J. Crichton Browne's vigorous denunciation of the smoke nuisance at the recent Sanitary Conference at Manchester an important resolution was passed at the last meeting of the City Council of that town reducing the price of gas for power purposes from 2*s.* 9*d.* to 2*s.* per 1000 cubic feet within the city and from 3*s.* to 2*s.* 3*d.* without the city, separate fittings being provided by the consumer. The reason given is the dread of the competition of Mond gas. It was stated by one of the members that the latter "could be produced at a tenth of a penny per horse-power per hour," and he thought that the corporation would do well to reduce the price for power to 1*s.* 6*d.* or even 1*s.* per 1000. Another speaker thought that the smoke pollution was caused mostly by cottages and that the encouragement of the use of "gas cookers" would tend more than anything to reduce the smoke nuisance. The small manufacturers who try "to get more power out of their machinery than their boiler-room would afford" were considered to be greater offenders than the larger ones, but when the great chimneys are pouring out their inky clouds we are reminded of the kettle calling the pot black. However the production of smoke is apportioned among these various agencies the total results are disastrous to the amenities of town life and depressing to the health and vigour of many hundreds of thousands in Manchester and Salford. But habit brings indifference, and it would astonish many to hear Sir J. Crichton Browne saying to them, "You are smothered in the products of combustion all the year round; in winter these settle down on you in fogs, grim and horrible. ..... A sable incubus embarrasses your breathing, a hideous scum settles on your skin and clothes, a swart awning offends your vision, a sullen cloud oppresses your spirits, and you quietly tolerate all this, apparently having come to regard it as inevitable and as a penalty inseparable from industrial prosperity"; and he then went on to show that this curse of the towns might be mitigated, if not entirely removed. It would be worth while to make little or no profit from gas if by its use the manifold injuries caused by smoke could be prevented.

DEATH IN THE POLICE CELL.

AN inquiry was held recently at Streatham concerning the death of a medical man in a cell at the police-station in which he had been placed because he had been found lying helpless in the public highway, so that the police were under the erroneous impression that he was drunk and incapable, and in which he died without medical assistance being summoned. The danger to members of the community owing to the confidence thus placed in the unaided diagnosis of the constable or the police-serjeant is frequently brought before our notice and we should have thought that by this time it would have obtruded itself upon the observation of the higher authorities responsible for the regulation of the police force. We concede that a large number of the persons brought into our police cells as drunk and incapable from the streets are in fact drunk and incapable and suffer no particular harm from being left in a recumbent position to "sleep it off" on a plank bed. We concede that in the case to which we are calling attention there may have been little in the symptoms readily observable to distinguish the case from drunkenness. We would, however, ask the consideration of the police authorities for certain propositions which seem to us pertinent, not only to the case of the medical man which we are dealing with quite apart from his connexion with the medical profession, but to a very large number of cases of illness and accident. Respectably dressed persons do not as a rule allow themselves to be overcome with drink in public places to the extent of having to lie down in the street without power to get themselves conveyed to their homes. Respectably dressed persons have usually documentary evidence of their identity about them and their friends can be communicated with. Nearly all persons picked up in the streets smell of drink because some are drunk, some on feeling ill have dosed themselves with spirits, and others have been in the hands of Samaritans whose first idea has been to pour alcohol down their throats, perhaps spilling a considerable quantity on their clothes. Many, if not most, of the class likely to be under the influence of drink are known to the police in the district in which they live. The man known to frequent a certain public-house and to get drunk there, if he is picked up insensible outside it, cannot complain if the policeman who takes him to the station forms an opinion as to the cause of his condition. But even in his case there is something to be said on the side of caution. Even the person who is under the influence of drink and drink only, or of a temporary seizure for which drink alone is responsible, should not be left to pay the penalty of his folly with his life, if his life is in danger. The person to decide the question whether there is such danger is the divisional surgeon and not the policeman, and the policeman should summon the surgeon, at any rate in all cases of insensibility. It is better that this should be done on some occasions unnecessarily than that life

should be sacrificed in the case of persons whose misfortune it has been to be taken ill in a public place and alone; while in the case of the drunkard a fine at the police-court in the morning, and not death in the cell over night, is the punishment which his transgression of public decency justifies.

THE PREVALENCE OF SMALL-POX.

THE number of cases admitted to the institutions of the Metropolitan Asylums Board since Friday, May 16th, is as follows:—On Saturday, the 17th, 32 cases; on Sunday, the 18th, 22 cases; on Monday, the 19th, 57 cases; on Tuesday, the 20th, 54 cases; and on Wednesday, the 21st, 36 cases. The bi-monthly report issued by the Local Government Board of Scotland shows that the number of cases of small-pox notified during the period May 1st to 15th inclusive in the following counties was Forfarshire 1, Lanarkshire 18, Renfrewshire 2, and Roxburghshire 1, making a total of 22. In the county of Essex the number of cases of small-pox notified for the week ending May 17th was 32.

SENSATIONAL EXHIBITIONS.

THE papers have recorded this week the death of another victim of the craze for sensational exhibitions. At Owlerton, Sheffield, on May 20th, an unfortunate girl was killed when attempting a descent with a parachute, the parachute having failed to open when she jumped from the balloon which had attained a considerable altitude. Exactly similar accidents have happened before and probably exactly similar accidents will happen again. The victim's sister nearly came to grief on the previous day when the balloon was damaged, and yet another accident was narrowly averted at Bradford recently when a parachute came into contact with a church spire. We understand that there were several thousands of spectators of the incident at Sheffield, and they may, without much exaggeration, look upon themselves as accessories in a case of suicide. If a life were not at stake there would be no excitement about such exhibitions. No particular skill is required to make a descent with a parachute. If the parachute opens properly the performer drops gracefully to earth; if anything prevents it from opening the performer is smashed to pieces. Apparently the attraction to the sight-seer lies in the fact that he may witness a tragedy. It seems to us that the sooner such displays are rendered illegal the better it will be for the moral welfare of the community.

THE LOSSES OF WAR.

THE *Standard* of May 20th contains an interesting communication from its Odessa correspondent in which a comparison, based upon official returns and upon recent articles in the Russian military press, is instituted between the British losses from disease and wounds in the present war in South Africa and those suffered by the Russians in the course of their last Turkish war. In that war, which was of some 18 months' duration, whereas the Boer war covers a period of 30 months or about a year in excess of the Russo-Turkish war of 1877–78, the Russian forces of all arms numbered altogether 505,000 (twice as many as the British troops in South Africa). The Russian army was divided into two great wings, the right covering the Danube and the left striking from the Caucasus. The army of the Danube lost 51,000 men through disease and 16,000 from wounds, while of the army of the Caucasus 37,000 died from disease and 12,000 succumbed from wounds. The total loss was accordingly 88,000 from disease and 28,000 from wounds, or 116,000 altogether. The most severe losses, amounting in all to 31,000, on any single battle-ground were naturally those sustained before Plevna in the three Russian assaults on that garrison stronghold. The results of the comparison, so far as they go and so far as any comparison can be instituted between the Russo-Turkish campaign and that in South Africa, are, as will be seen, highly favourable to the British mortality returns of the present war.

PATRONYMICS OF MEDICAL LONDON.

A CORRESPONDENT has been making investigations with regard to the numbers of surnames having the same initial and included in the "London" section of the Medical Directory for 1902. He finds that the most frequent initials stand in the following order: B, 701; S, 587; M, 568; H, 514; C, 503; and W, 481 names. These initials thus account for 3354 names out of the 6292 names stated by the publishers of the Directory to be in the "London" list, so that one out of every two medical persons in London bears a family name with one of the above six initials. The most infrequent initials are: V, with 46 names; Y, with 25; I, with 19; U, with nine; Q, with five; and Z, with two, while X does not occur. It may be mentioned for purposes of comparison that for the "Provincial" list the sequence of initials is almost the same, while for "Scotland" and "Ireland" the predominating initial is M and for "Wales and Monmouth" it is J.

A MEDICAL HISTORY OF THE OPERATIONS IN CHINA, 1900-1901, BY THE PRINCIPAL MEDICAL OFFICER OF THE FRENCH EXPEDITIONARY FORCE.

THE whole of the *Archives de Médecine Navale* for March is devoted, with the exception of some half-dozen pages, to the first part of a medical report on the recent operations in Northern China by Dr. Jacquemin, principal medical officer of the French troops, with the collaboration of his staff officer, Dr. Bourns. It is an outspoken document and promises to be of considerable value not only as a faithful record of events but also for future guidance, should similar cases occur. It was not till July 20th, 1900, that the author received his orders to prepare the medical portion of the expedition. On August 10th he embarked at Marseilles, the intervening period of exactly three weeks having been spent in procuring an outfit almost *ab initio*, so unprepared was the medical department of the French navy for the demands thus suddenly made upon its resources. For his complex and indispensable *matériel* Dr. Jacquemin had to seek in various directions. The War Department lent him hospital requirements—furniture, beds, ambulances. From the Ministry of the Navy he procured drugs, dressing material, comforts, and clothing. Finally, he had to purchase in the open market such articles as filters, water-sterilisers, disinfecting machines, and all the appliances required for radiography and bacteriology. The report is divided into four parts under the following headings: (1) Organisation and Procedure of the Health Service; (2) the *Matériel* of the Service; (3) Medical Notes on the Foreign Armies in China; and (4) Statistics and Medical Matters. As far as it is possible to judge from the present instalment of his report Dr. Jacquemin seems to have met with unusual facilities in the execution of his important duties. "We were able," he says, "from the moment of our arrival to install at Tien Tsin, and also at Pekin, hospitals of 250 beds which had no cause to envy similar establishments at home." Elsewhere also he observes: "The General Commanding in Chief at one of his earliest conferences with heads of departments said, 'The health service should come before everything else. It is my desire that all the other services shall do their utmost to facilitate its task.' We are bound," continues Dr. Jacquemin, "to

acknowledge with gratitude that these orders were carried out not only with exactitude but also with goodwill and rapidity. Staff officers refused us none of the sacrifices which we required of them—necessary credits, choice of quarters, *personnel*."

A LETTER written on behalf of the council of the Sanitary Institute was published in the *Times* of May 17th inviting attention to the urgent necessity which exists for enlarging the premises of the Parkes Museum. It is estimated that a sum of £25,000 will be required for this purpose, towards which about £8000 have already been raised. The museum has now become a practical demonstration school for illustrating and teaching all matters relating to sanitation and hygiene and the available space is hardly sufficient for the increasing work that is being carried on. The museum receives no grant from any public funds and is maintained by the Sanitary Institute at a considerable annual cost. THE Duke of Northumberland, Vice-President, will preside at the Sanitary Institute Coronation Dinner to be held on Monday, June 2nd, at the Midland Grand Hotel. All communications should be addressed to Mr E. White Wallis, F.S.S., secretary of the institute.

THE general meeting of the British Balneological and Climatological Society will be held on Tuesday, June 3rd, at 20, Hanover-square, W., at 5 P.M. At 6.30 P.M. on the same day the annual dinner will take place at Pagani's Restaurant, Great Portland-street, W., and at 9 P.M. a conversazione will be held at 20, Hanover-square, W., when Sir Lauder Brunton, M.D., F.R.C.P., will deliver an address. Communications should be addressed to the honorary secretaries, Dr. Septimus P. Sutherland, 11, Cavendish-place, W., and Mr. H. Shirley Jones, Droitwich, who are inquiring for articles relating to balneology and climatology to exhibit at the conversazione.

THE anniversary dinner of the members of the Imperial Yeomanry Field Hospital and Bearer Company in commemoration of their capture at Roodeval will be held at the Criterion Restaurant on June 7th. Members wishing to attend who may not already have received notice are requested to communicate with the secretary, Mr. Oliver Williams, 116, Victoria-street, Westminster, S.W.

A DINNER of the Ophthalmological Society of the United Kingdom will be held on Friday, June 13th, at the Trocadero Restaurant at 7.30 P.M., Dr. Little, the President, in the chair. All communications should be addressed to Mr. Hall at 11, Chandos-street, W. The Bowman Lecture will be delivered on the same day by Professor Fuchs of Vienna, at 4.30 P.M.

A DISTRIBUTION of prizes gained by successful students at the Charing Cross Hospital Medical School will be made by Sir Frederick Treves, K.C.V.O., C.B., F.R.C.S., on Wednesday, June 11th, next, at 3.30 P.M.

THE Registrar announces that the next session of the General Council of Medical Education and Registration will begin on Tuesday, May 27th, at 2 o'clock P.M.

WE are informed that a rumour of the death of Professor Groedel of Bad-Nauheim which is stated to have obtained some currency is happily untrue.

OBSERVATIONS ON DIET.

By HARRY CAMPBELL, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL; PHYSICIAN TO THE WEST-END HOSPITAL FOR NERVOUS DISEASES, WELBECK-STREET, W.

I.—QUANTITY OF FOOD.

THE question how much food it is advisable for an individual to consume is one of vast importance to the physician. He may sometimes save a life by entirely withholding food for a time; very often he may do great good by curtailing the diet of a habitual over-eater; in other cases, again, the opposite plan of gorging the patient may effect a cure.

At the outset it has to be decided what constitutes the normal allowance of food. Obviously no cast-iron rule, applicable to each and every individual, is available here. The decision will depend upon a variety of circumstances now to be considered. In my remarks on this head I shall assume that the various nutritive ingredients—proteids, fats, and saccharides—are correctly proportioned.

Circumstances influencing the Amount of Food required.

The quantity of food required is largely regulated by the rate of katabolism: the more rapid that this is the larger is the amount of food needed. The rate of katabolism varies with many circumstances, such as age, sex, idiosyncrasy, size, external temperature, and the amount of exercise taken; consequently these become determining factors.

Age.—The period of growth is characterised by great katabolic activity and a correspondingly large supply of food is demanded during it. This active katabolism is due partly to the fact (to be referred to later) that small animals katabolise, if I may be allowed the expression, more rapidly than large ones and partly to the abounding activity of the muscular system which prevails in early life, but chiefly to the rapid formation of new tissue. Why this latter necessitates very active katabolism cannot be explained. That it does so is evident: the large supply of food required by the constructive process is vastly in excess of the amount which is converted into, and retained as, new tissue. Evidently the construction of animal bioplasm involves a lavish expenditure of building material; for consider how small is the daily increase in weight as compared with the amount of food taken: the average yearly increase of weight from birth to the age of 20 years is about half a stone or less than a third of an ounce each day—a quantity represented by a moderate mouthful of food—and this quantity is so insignificant in comparison with the total amount taken daily as to be practically negligible. The abundance of food required by the rapidly-growing individual, say at puberty, is therefore to be explained by the activity of katabolism then prevailing, and not by the quantity actually laid down as new tissue.

The rate of katabolism and therefore the amount of food required remain much the same from the beginning of maturity till the age of 40 years or thereabouts, when they diminish in progressive ratio till the end of life; slowly from 40 to 50 years, more rapidly from 50 to 60 years, and still more rapidly from 60 to 70 years, until, when extreme old age is reached, katabolism has become so sluggish that a surprisingly small quantity of food is needed. That "old people bear abstinence well" is an observation dating from Hippocrates. To make the aphorism complete it should be added that they "bear excessive eating ill." This is one of the most important therapeutic truths that I know.

Sex.—The male Human needs more food than the female, not only on account of his larger stature but also because he is the more katabolic of the two. The man tends to expend energy and the woman to store it up in the form of fat: he burns the faster. This sexual difference shows itself in the very blood; the man has a larger percentage of chromocytes than the woman, showing that he needs a proportionately larger quantity of oxygen in order to maintain his more active combustion—a fact which one may associate with his comparative freedom from chlorosis; moreover, weight for weight, his pulmonary capacity is greater than that of the woman whose smaller respiratory need is further shown by the facility with which she can without discomfort diminish her breathing power by means of the corset. The great contrast between the metabolic activity of the two

sexes was forcibly brought home to me by a military display given by a troupe of dusky amazons, with whom were also a few male warriors. The women, in spite of their daily exertions, were all rounded and plump, some very much so, no single muscle showing through the skin, and it was noticed that their movements, though full of grace, lacked energy and "go." The men, on the other hand, were spare, their muscles standing out plainly under the shiny skin, and they, in further contrast with the women, displayed a truly amazing agility, bounding about and whirling round in a most astounding fashion: the women, in short, were essentially anabolic and the men were katabolic. I may here draw attention to the fact that men are apt to be larger meat-eaters than women, just as they are, possibly in consequence of this very fact, more prone to drink alcohol and to smoke tobacco.

Idiosyncrasy.—Some individuals are so constituted as to require more food than others. This may partly be explained by peculiarities of digestion, some digesting and absorbing their food more completely than others and consequently requiring so much the less of it: but it is, I doubt not, chiefly referable to differences in katabolic activity. Some burn off the absorbed food more rapidly than others. Compare the thin, wiry, restless, energetic individual with his fat, phlegmatic brother. The one no amount of gorging will fatten and the other a starvation diet will scarcely make thin; in the one the metabolic clockwork is regulated to go fast, so to say, and in the other to go slow. As exaggerated examples of these two types take the subject of Graves's disease and of myxœdema. The heightened katabolism in the former case is due to an excess of (perverted?) thyroid secretion in the blood, just as the depressed katabolism in the latter disease is due to a deficiency of this secretion. Thyroid secretion, in fact, plays the part of a bellows, causing the vital fire to burn more fiercely and increasing the output of urea, carbonic acid, &c. One can scarcely doubt, in short, that the differences of katabolic activity among normal individuals depend to a large extent upon the activity of the thyroid gland; and we may be sure that there are many kindred influences affecting the rate of katabolism of which we are as yet ignorant.

Size.—Obviously the quantity of food required is largely influenced by the size of the individual. Those of large stature need more than those of small stature; per unit of body-weight, however, they require less, because in man, as in all other warm-blooded animals, metabolic activity tends to vary in inverse ratio to body-weight, for the smaller the animal the larger is its surface in proportion to weight and the greater, therefore, are the proportional loss of heat and the need for food to supply that loss: the mouse requires much more food in proportion to its weight than does the elephant.

External temperature.—The colder the weather the greater is the loss of heat and the more active is the katabolism in order to make good the loss and the greater is the demand for food in consequence. The Esquimaux are said to consume prodigious quantities of food, notably fat. By means of warm clothing man is able to lessen the loss of heat in cold weather and the more effectually that he does this the less will he need to increase his diet. In warm weather, on the other hand, katabolism tends to be depressed owing to the comparatively small loss of heat, and there is a correspondingly small need of food for the generation of heat. Possibly a bracing climate, apart from the influence of temperature, tends to stimulate metabolism; at all events it tends to increase the appetite. An open-air life has the same effect quite apart from the fact that it generally goes along with muscular activity. It is not easy to explain why this is so; possibly more oxygen is absorbed in the open air than indoors and it is probable that the mere impact of moving air against exposed parts excites katabolism by stimulating the cutaneous nerves and by augmenting the loss of heat. Certain it is that rapid motion through the air increases the appetite and in this connexion one recalls the fact that a horse travels better on a hot day against the wind than with it.

Muscle exercise.—Among the influences which determine the rate of katabolism, and therefore the quantity of food required, the degree to which the muscular system is exercised occupies a prominent place. When a person is kept quiet in bed he needs comparatively little food but when his muscles are doing laborious work, as in the case of a soldier on a forced march, he requires a large amount—as much, indeed, as his digestive organs can cope with,—so that it is difficult, if not impossible, for those regularly engaged in laborious work habitually to over-eat, as witness the rarity of obesity among them. The moral to be deduced from this is not only that those who exercise the muscles much need large quantities of food but also that those who eat liberally should take abundant exercise; and often the chief reason for insisting on exercise being taken is that the evils of an excessive diet may be counteracted. Those who lead sedentary lives should be constantly on their guard against excesses at the table. On the other hand, the evil effects of a sedentary life may be reduced to a minimum by a spare diet. Accounts are constantly read in the papers of some recluse who, after living for years in one room, finally dies at an advanced age; and in all such cases it will be found that the diet has been spare, oftentimes on account of a miserly disposition. Those, and they are many, who are compelled to lead a sedentary life may take comfort from this fact. It is the high living with little exercise that does the harm, not so much the little exercise itself, and it need scarcely be said that these remarks apply especially to middle and late life; not only is youth the period *par excellence* of muscular activity but also an excess of food is then most easily dealt with; in middle and late life, on the other hand, there is a growing tendency to sedentariness, while the tissues become less and less capable of coping with a redundancy of food.

CLASSIFICATION OF DIETARIES ACCORDING AS THEY ARE SUFFICIENT, INSUFFICIENT, OR EXCESSIVE.

Food may be sufficient, insufficient, or excessive in quantity. In judging whether a given dietary falls into one or other of these categories the physician cannot, of course, rely solely on the mere weight of the food consumed; for on the one hand, a diet which is considerable as tested by mere weight—such as a purely vegetarian one, for instance—may be deficient in some nutritive ingredient, and, on the other hand, a diet which is small in weight—such as a purely animal one—may be excessive in another; but, as already observed, I shall assume in discussing the subject of the quantity of food that the various nutritive ingredients are correctly balanced.

A Sufficient Diet.

By a "sufficient" diet I mean one just sufficient to maintain the normal body-weight; a diet which falls short of this is "insufficient" and one which goes beyond it is "excessive." It has, then, to be decided what the normal weight is. This cannot be done in the case of the growing individual whose weight is constantly changing, but here instinct affords a sufficiently accurate guide as to the amount of food that should be consumed, always provided—and the qualification is an important one—that it is plain and wholesome. If the food-supply is not sufficient there will be unmistakeable evidence of it in the shape of defective growth and nutrition; and if it is in excess, well, no great harm is likely to follow, except in the case of babies, to which reference will be made in due course. It is chiefly in the case of the adult that it is needful to have a precise test as to what constitutes a sufficient diet. Now the normal weight of an adult I take to be *the minimum weight consistent with the best health of which the individual is capable.* In order to ascertain this the physician, in the case of a stout person, curtails the diet and cautiously diminishes the weight until he is satisfied that any further reduction would be harmful; while, on the other hand, in the case of a thin person who is ailing, he increases the diet and the weight until he believes the highest level of health to be reached. When he has obtained the approximate normal it may be needful still further to reduce or to increase the weight and thus cautiously to feel his way to the actual normal. Some care may be required to get at the right result, as when, for instance, the weight is actually increased by cutting down a diet that has been excessive, an effect which I have more than once seen.

In deciding what is the normal weight due allowances must be made for age, sex, and idiosyncrasy. Middle-aged people may be normally somewhat stout, just as the aged normally incline to leanness; young women are naturally stouter than young men; some, again, are by nature thin and others are stout irrespectively of age and sex and so on.

Actual quantity of food constituting a sufficiency.—It is often most useful to determine the actual quantity of food constituting a sufficiency for a given individual—i.e., the smallest quantity on which he can maintain his normal weight—for his health may frequently be greatly improved by raising or reducing, as the case may be, his diet to this level.

Such a bare sufficiency can never be reduced without causing harm and may often, in fact, be temporarily increased with advantage. Dr. R. Hutchison, indeed, argues that it is not advisable to supply the organism with a bare sufficiency and that a certain margin of excess should always be allowed.

While the actual quantity constituting a sufficiency in any given case can only be determined by experiment, it is yet useful to have a rough notion of what it is in different classes of individuals. Among those leading muscularly active lives a sufficient diet varies from three to five pounds per diem. A man doing a moderate amount of muscular work takes on an average about three pounds—i.e., 48 ounces—per diem. For a professional man taking little exercise 30 ounces a day constitute a fair average; this is the amount which Pavy gives as his own daily allowance, thus distributed: eight ounces for breakfast, six for luncheon, and 16 for dinner. The middle diet at Guy's Hospital totals up to 29½ ounces and this for patients who are taking little or no exercise. Some, of course, require much more than this and some appear to do very well on considerably less. These latter cases are valuable as showing on how little food some people can subsist but they must not be accepted as criteria for the many. Individuals of this class are evidently endowed with very efficient powers of digestion and in addition probably belong to the anabolic temperament, and, as would be expected, most of them are past middle life when metabolic activity tends to slacken and the food required is an ever-diminishing quantity. The miller of Billericay is said to have lived in vigorous health for upwards of 18 years on a daily allowance of 16 ounces of flour made into a pudding with water, and the celebrated Cornaro, who lived to be nearly 100 years old, limited his diet to 12 ounces daily (made up of yelk of egg, soup, meat, and bread) together with 14 ounces of wine. I have myself met with cases in which the daily diet has been no more than this. Thus a lady, aged about 50 years, has lived for years on a diet somewhat as follows: breakfast and tea, two thin slices of bread-and-butter and a cupful of tea; midday meal, a small plateful of meat and vegetables, a small helping of pudding, a small piece of bread, and a glassful of ale. This lady would probably enjoy more vigorous health if she ate more but she declares that this diet is all-sufficing. The following is the diet of a plump and cheery old woman aged 84 years; breakfast, two thin slices of brown bread-and-butter, and one cupful of tea; dinner, a thin slice of bacon and three or four potatoes; tea, two slices of thin bread-and-butter and a cupful of tea; and supper, a slice of bread about one-third of an inch thick and a piece of cheese of "about the size of a penny." She has always, she says, been a small eater and people often tell her that she does not eat enough "to keep her going," but the food she takes satisfies her and she never feels any craving. The most remarkably young old man whom I have ever met consumes every day about four ounces of bread, three ounces of bacon, two ounces of meat, two ounces of sugar, one ounce of butter, and half a pint of ale. He lives in London and his food and beer cost him about 8*d.* a day. Dr. Keith, who is so well known for his forcible advocacy of slender rations both in health and disease, has for breakfast two or three ounces of bread, a quarter of an ounce each of butter and preserve, and half an ounce of fish or a quarter of an ounce of bacon; for lunch a cupful of cocoa or chocolate or a small tumblerful of milk, two or three ounces of bread, and about a quarter of an ounce each of butter and preserve; at 4 P.M. a small cupful of tea and sometimes biscuit or cake; at 7 P.M. soup and three ounces of white fish with a potato and another vegetable (if no fish, one or two ounces of lamb, game, rabbit, or tripe, but often neither fish nor flesh), a fair helping of some sweet or, instead of the latter, celery, cheese, oatcake, and butter. "On this diet," writes Dr. Keith, "I enjoy the best of health, and for my age (78 years) am up for a fair amount of exercise, walking three to six miles daily in good and sometimes in bad weather, and usually part of this is up a steep road with a rise of 250 feet. ..... I never feel what can be called hunger, and have not done so for many years. I could omit a meal at any time without discomfort. This I have long looked upon as the best proof of a perfect digestion." Mr. van Someren[1] finds that he can maintain good health on a very small quantity of food and he has brought forward evidence to show that by thoroughly masticating and insalivating the food nutrition can be maintained on a smaller quantity than when mastication is imperfect. This one can well believe, for efficient mastication facilitates digestion and the more perfect the digestion the more economically are the nutritive ingredients dealt with by the organism. Other things being equal, the more perfect the digestion the less is the quantity of food needed; and, indeed, as Dr. Keith observes, when digestion is perfect a meal can at any time be omitted without discomfort. This helps to explain how it is that one can educate oneself to subsist on smaller and smaller quantities of food. If a person who has been accustomed to eat an excess of food suddenly diminishes his daily allowance he may complain that he is being starved, that he feels "faint for food," and that he needs more food "to support him." His entire organism, but especially his digestive system, has become so accustomed to a copious diet that it cannot quickly adapt itself to the sudden curtailment. Above all he misses the mechanical stimulus of a large mass in his alimentary tract, just as he misses the chemical stimulus of the food; the morbid craving for food which the excessive eater is so wont to suffer from is indeed rather a craving for this mechanical and chemical stimulus than for nutriment and is exactly analogous to the drunkard's morbid craving for alcohol and to that of the opium-eater for opium. But by education the excessive eater can overcome this craving and his system can acquire such habits of economy as to make comparatively little go quite as far as a superabundance. This economical disposal of food is doubtless chiefly effected by the digestive organs, though it does not seem improbable that the tissues generally may be educated into thrifty habits.

How to reduce a sufficient diet to the minimum.—The quantity of food constituting a sufficient diet varies, of course, with circumstances. Now there are occasions when it is necessary to reduce the dietetic requirements of the body to a minimum, as, for instance, in grave affections of the heart, the lungs, or the kidneys, when it is desirable to give the failing organs as little work to do as possible. For this purpose the physician seeks to obtain the completest possible quiescence of the muscle system and to reduce the loss of heat to a minimum. He keeps the patient in bed, tells him to lie quiet and to relax his muscles to the utmost; he maintains a warm temperature in the room, gives all food and drink warm, and covers the entire body, save the head, with some light, non-conducting material; it is necessary that it should be light so that it may not impose unnecessary work upon the respiratory muscles. Old age, the female sex, and a sluggish metabolic habit are most favourable for the reduction of diet.

An Insufficient Diet.

Evils resulting from an insufficient diet.—The evil results of an insufficient diet—and here I refer essentially to an all-round insufficiency of proteids, fats, and saccharides—are too well known to need more than a passing notice. They are emaciation, anæmia, indigestion, nervous prostration, and mental depression, with lowered vitality generally and diminished resistance to disease. It is well, by the way, to observe that the requirements of nutrition are not necessarily satisfied by an abundant daily supply of food; that supply needs to be properly distributed in time, otherwise there may be temporary starvation, for though the organism is capable of storing food so that it can draw upon it in time of need, the capacity for so doing is, except in the case of fat and that in certain individuals only, very limited. Most of the energy expended by the organism is, in fact, derived from the food recently taken and it is therefore desirable that the intervals between meals should not be too long. This precaution is above all needful in the case of proteids which admit of only a very limited storage, being rapidly katabolised and eliminated as urea and allied bodies. Suppose, for instance, that the bulk of the daily proteid is consumed at the late meal, say at 7.30 or 8 P.M., a large part of it is katabolised and run out of the body before the next day is reached, as shown by the rapid rise in the output of urea shortly after the meal; there is thus a deficiency of circulating proteid to start the next day with, and hence care must be taken that a fresh supply is obtained at breakfast and midday. The amount can then be reduced at the late meal and nutrition can be maintained on a smaller amount than is otherwise possible. It is somewhat remarkable, in view of the comparatively small storage power which the animal organism has for proteids, that the carnivora should subsist for the most part on one meal in the 24 hours.

Ability of the organism to withstand starvation.—But while recognising the limit beyond which insufficient diet becomes

[1] THE LANCET, August 10th, 1901, p. 389.

starvation the physician should ever bear in mind that life can be sustained for a considerable time without any food whatsoever—especially after maturity is reached—if only the individual is well nourished to begin with. The public have a great idea of "keeping up the patient's strength" and believe that the most effectual way of doing this is to cram as much food as possible down his throat. They fail to realise that a person, especially if kept warm and quiet in bed, can go on living for a considerable time absolutely without food and that this period can be greatly lengthened by giving very small quantities daily. One constantly sees patients living quite comfortably on nutrient enemata alone and although it must not be too readily assumed that such patients are being completely nourished—for they may, as Hutchison observes, be living to a large extent upon their own tissues—the fact remains that life may be sustained for quite a long time on a very small amount of nutriment. It is, in sooth, no easy matter to kill a patient by starvation. I have in mind the case of a middle-aged man who lived for three months on a pint of milk a day and that while he was up and about. It is well to keep this fact in mind when there are urgent reasons for curtailing the diet or, it may be, for withholding it altogether for a time. I sometimes smile at the alarm expressed both by the patient and his friends when I tell some overfed, elderly sufferer from bronchitis who is being suffocated by a superfluity of fat that he could live for some days—and that with advantage—without any food at all. Such patients do not die from starvation. How many do?

How long life can be sustained without food has been shown by the experience of professional fasters. Death from starvation does not generally occur until the body has lost one-third of its original weight—until, e.g., a 12-stone individual has been reduced to eight stones.

THE REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1900.[1]

FIRST NOTICE.

WE gladly welcome the appearance of these annual reports, for they are ably drawn up and not only embody much interesting information in regard to the diseases prevalent in India but they also afford a learned and excellent summary of the progress of medical research in Europe and other countries outside India in respect of those diseases which are more or less incidental to all climates alike. For this purpose the medical literature of all countries is laid under contribution and material which happens to be illustrative of any subject under consideration is drawn from various sources. The present report is of reduced size as compared with its predecessors, but it does not seem to us that this reduction has been attended with any sacrifice in the value of its contents. The report is signed by Surgeon-General Franklin, I.M.S., the newly-appointed Sanitary Commissioner with the Government of India, but it was written during, and refers to, a period prior to his assumption of office and the proofs were passed by the late Surgeon-General R. Harvey, C.B., D.S.O., his predecessor in that post. After a very brief summary of the meteorological phenomena of the year the different sections of the report, which as will be seen embrace a wide range, follow the usual order and are devoted to such subjects as the following: the European army in India, the native army, the jails of India, vital statistics of the general population with a history of the chief diseases, a general history of vaccination, sanitary works, and in conclusion there is a section in which a number of interesting and valuable points of information are grouped together under the heading of "General Remarks." The appendices to the report consist of various statistical tables and figures which, while they have little or no interest for the general reader, are nevertheless of value and importance to the medical statistician and to such as are bent upon making any special inquiry as to the prevalence of any given disease.

[1] Annual Report of the Sanitary Commissioner with the Government of India, 1900, with Appendices and Returns of Sickness and Mortality among European Troops, Native Troops, and Prisoners in India for the year. Calcutta: Office of the Superintendent of Government Printing, India. 1902. Price 3 rupees.

Speaking generally we may say that the medical statistics for the British troops serving in India may be taken as being trustworthy, as well as may those perhaps for the native army and jail population. But this cannot be said of the figures relating to the native population. The mere registration of births and deaths is most defective and the results are untrustworthy and can be taken only as approximative at best. Still more is this the case as regards the nature of the diseases of which the native populations of India die, about which we really know but little.

To begin with the European army of India, we find that its health was better in 1900 than in the previous year as regards the amount of sickness, but the decrease in this respect was somewhat outweighed by an increase in mortality and invaliding. While the chief causes of admission were ague and venereal disease the chief causes of death were enteric fever and then hepatic abscess and cholera and the chief causes of invaliding venereal diseases, malarial fevers, cardiac affections, and pulmonary tubercle. Ague and venereal diseases caused respectively 27 and 26 per cent. of the total sickness. Enteric fever caused 33 per cent. of the total deaths, hepatic abscess 11 per cent., and cholera 10 per cent. It may be mentioned that the chief causes of admission in the China Field Force were ague, dysentery, venereal disease, and diarrhœa, and that the main causes of death were enteric fever and dysentery.

According to the report Madras was the most unhealthy of the four commands, Bombay coming next, and both being more unhealthy than in 1899. Bengal had the highest mortality from tubercle of the lungs, dysentery, and abscess of the liver; the Punjab from remittent fever, heat-stroke, and pneumonia; Madras from cholera, ague, and dysentery; and Bombay from small-pox, enteric fever, and diarrhœa. Passing over in the meantime such diseases as influenza and cholera we come to ague which gave rise, as we have said, to nearly 27 per cent. of the admissions from all causes. The greatest outbreaks were those at Ferozepore and at Fort Dufferin, Mandalay. At Ferozepore, we are told, the increase of the disease—much of it of a severe and grave type—became explosively sudden in October. At the same time mosquitoes (anopheles) were found to be unusually abundant and troublesome in barracks, bungalows, and hospitals. The women, children, and bandsmen returning from the hills were all attacked and from their cases it was judged that the incubation period of the disease is about 14 days. The whole wing of the Oxford Light Infantry being completely prostrated and incapacitated for duty the men were sent to Kurrachee. Other classes of the population also suffered. At Mandalay the men of the 2nd Durham Light Infantry stationed at Fort Dufferin suffered severely, while the artillery near Mandalay Hill were practically free. It is not at all satisfactory to be told that the infantry barracks are situated in a marsh and that the locality is so notoriously unhealthy that it was in King Theobaw's time abandoned by the Burmese. About 350 men of the corps were sent away to healthy stations and ultimately the whole regiment was removed to Wellington.

Following these statements regarding fever of an undoubted malarial nature and some remarks recording the finding of anopheles at numerous stations, the report, in continuation of a subject which is being carried on from year to year, enters upon a consideration of the nature and causation of various other forms of fever which occupy a prominent place in the nomenclature of disease used in the army medical returns of India. We allude to such diseases as remittent fever, simple continued fever, and enteric fever. There exists, no doubt, much diversity of opinion in regard to the exact nature and pathology of the fevers which prevail, or are alleged to prevail, in India and their differentiation from one another. As regards enteric fever, for example, modern views and researches in respect of its bacillary origin, the discovery and application of new tests—Widal's reaction for instance—and a more enlarged field of view, embracing a number of cases such as some years ago would not probably have been included as even coming within the category of enteric fever, have given quite a new standpoint from which to study this form of fever. The report of the Sanitary Commissioner for the year 1900 opens up some fresh and notable points for consideration in this matter, the discussion of which must for the present moment be deferred. The question of the liability of the native population to enteric fever, for example, is calculated to throw a new light on the spread of this disease in India. It

will now, however, suffice to say that there was again a great decrease of both morbidity and mortality from enteric fever among the European troops. The admission-rate was the lowest that has been since that of 1888. Of the causes of decrease probably the most powerful were the almost complete absence of drafts from England and the freedom from field service, but the reduction is not so great as might have been expected had the prevalence of the disease been entirely due to the supply of fresh susceptible subjects. It is stated that statistical evidence shows that of late years men of higher ages and of longer periods of service have been attacked in higher proportion to their strength than formerly. Still, the report for 1900 shows, in accordance with all past experience, that the greatest liability in Europeans to suffer and to die from enteric fever is between the ages of 20 and 25 and in the first three years of Indian service. The months of its maximum prevalence for India as a whole are May, April, and August, but this maximum period differs in northern and in peninsular India.

With regard to dysentery, diarrhœa, and hepatic abscess the conclusions set forth on pages 23 and 24 of the report are very much in accordance with those recorded in previous reports and are well worth reading. It is worthy of note that the mortality from abscess of the liver in 1900 was 31 times greater among European than among native soldiers, notwithstanding that the admission ratio from dysentery among European soldiers was to the ratio of the native soldiers as 1 : 1·95.

Touching the lamentable prevalence of venereal diseases among British troops serving in India, which a few years ago forced itself upon public attention, we are glad to notice that the year 1900 shows a decrease. The admission-rate for India for that year was 298·1 per 1000, as against 313·4 in the previous year and 362·9 in 1898. In other words there were 15 fewer admissions to hospital per 1000 for these diseases in 1900 than in 1899. This is satisfactory as far as it goes but it is not a striking decrease. The causes assigned for it are detailed on page 25 of the report but we need not enter into these. Although we gladly hail every attempt that is made to increase the moral tone and self-control of the soldier we nevertheless fear that these measures alone will prove inadequate and illusory and while we fully recognise all the difficulties which the subject involves we think that the evil can only be effectively dealt with by sanitary legislation of some kind.

THE METROPOLITAN WATER-SUPPLY: THE LONDON WATER BILL.

THE Joint Committee of the two Houses of Parliament appointed to report on the London Water Bill sat on May 12th, 13th, 14th, and 15th, and then adjourned until Tuesday, May 27th. The course of the proceedings has not been altogether a smooth one, and the greater the amount of time spent in considering the effects of the Bill the greater the number of the difficulties which become apparent. The space at our disposal will admit of nothing more than a general view of the proceedings of the Committee. The fact that in regard to essential parts of the Bill the most divergent views are held by members of the Committee is evident.

At the sitting of May 13th Lord BALFOUR of BURLEIGH explained fully the effects of the decision of the Committee in regard to the schedule which it had once decided to delete. This schedule is to be reconsidered line by line. When this is done if a question be put that such-and-such a line be deleted and the Committee does not agree unanimously, and if the members then vote on the question and there be an equality of votes, then according to the rule which presumes that an equality of votes means a negative the line will not be deleted. If, however, the amendment were put the other way—that is, to insert words, the rule would tell in exactly the opposite direction and an equality of votes would tell against the resolution. It was ingeniously suggested by Mr. BALFOUR BROWN that it might be competent for any member of the Committee to move that the resolution of May 12th should stand and that if there were an equality of votes on that motion the resolution of May 12th would go. Lord BALFOUR of BURLEIGH, however, said that as chairman he should probably rule that the proper course would be to move to delete a certain passage in the Bill. The position of chairman to a Joint Committee of the two Houses of Parliament evidently gives opportunities for a little *finesse*.

The sitting of May 14th was occupied chiefly in considering Clause 2 of the Bill. This clause provided that from an "appointed day" the Water Board should hold the undertaking of each metropolitan water company, exercise all the rights, &c., of the company, and be subject to all the duties and obligations of the company. On behalf of the water companies an amendment was introduced with the object of securing that some date should be fixed by the court of arbitration anterior to the commencement of the arbitration, and from which date any undertaking when it was transferred should vest in the Water Board as "a going concern."

Counsel for the Local Government Board objected to the words "a going concern," which seems popularly to indicate the propriety of some extra payment on the part of a purchaser. This, indeed, was practically admitted by Mr. DANCKWERTS, one of the counsel for the water companies, who said that the words were introduced into Tramway Bills, where there is a transference of these undertakings, and it was desired to get rid of the Shaw-Lefevre clause which was, he explained, the "old-iron" clause. The amendment was lost by seven to three.

On Sub-section 2 of Clause 2 amendments were moved by the water companies and by the London County Council. This sub-section provided that the Water Board should issue to each company in consideration for the undertaking so transferred such an amount of water stock created under this Act as may be agreed upon between the board and the company, or in default of agreement as may be determined by arbitration under the Act. The London County Council opposed this sub-section on two points. In the first place a newly constituted Water Board should, they argued, be prevented from coming to an immediate agreement as to the price to be paid for a water company's undertaking—the matter of price should in all cases be referred to arbitration. Briefly, the new Water Board was not to be trusted to act for the best in the interests of those whom it represented. The second point was that power should be given for the companies to be paid in cash.

On behalf of the water companies Mr. PEMBER, K.C., suggested that the words "as compensation for" should be used instead of the words "in consideration for."

On behalf of the Local Government Board Mr. J. D. FITZGERALD, K.C., pointed out the advantages which Mr. Banbury had at a previous sitting clearly shown were likely to follow the method of payment by water stock instead of payment in cash.

The committee accepted the alteration suggested by Mr. Pember and further decided that payment for the undertakings should be made in cash. The sub-section was therefore amended as follows:—

1. Subject to the provisions of this Act as from the appointed day the undertaking of each of the metropolitan water companies shall be transferred to and shall vest in the Water Board, and there shall also be transferred from the company to the Water Board all liabilities with repect to any debenture stock or mortgage debt of the company and all other debts, liabilities, and obligations of the company then existing. 2. The Water Board shall pay to each company as compensation for the transfer of the undertaking such sum as may be agreed on between the Board and the company, or in default of agreement as may be determined by arbitration under this Act, but the sum so payable may, if the Water Board and the company so agree, be discharged wholly or partly in water stock; an agreement for the purposes of this section shall not be made except in pursuance of a resolution of an absolute majority of the whole number of the Water Board after 10 clear days' notice in writing of the meeting and of the intention to propose the resolution has been given to every member of the board.

The Committee decided that Ilford and Barking should not be dealt with in the Bill.

Clause 8 gave rise to a good deal of discussion. As originally drawn it dealt with supply in bulk to certain districts and persons. The places mentioned were Croydon and Richmond and the urban districts of Cheshunt, Enfield, Tottenham, and Ware, and the clause provided also for the supply by the council of any rural district situate wholly or partly within the limits of supply on conditions to be arranged between the Water Board and these authorities, or in case of disagreement on terms to be decided by arbitration. On behalf of the London County Council its statistical officer gave it as his opinion that these areas should either be definitely put outside the water area or should remain within it. No option

in the matter should be given to the local authorities in the manner provided by the Bill.

In answer to Lord BALFOUR OF BURLEIGH counsel employed by the London County Council admitted that that council was not authorised to represent the rural districts in this matter.

Counsel for the Hertfordshire Council Council and for the rural districts of Essex said that these authorities were in favour of the Bill as it stood, and the Committee decided generally in favour of the clause after some amendments had been made.

Clause 9 deals with a financial matter—the substitution of water stock for irredeemable debenture stock.

Mr. BAGGALLAY, on behalf of the water companies, explained that it might be of advantage to the Committee to know that the question as presented was really a sort of triangular duel in which the three belligerents were the Local Government Board, the London County Council, and the water companies.

The committee decided that the clause should stand.

Towards the end of the sitting Mr. PEMBER, K.C., on behalf of two water company directors who were also Members of Parliament, said that they were aggrieved that counsel for the Local Government Board had, as he stated, said that the water companies were in league with the London County Council to wreck the Bill.

Lord BALFOUR of BURLEIGH asked whether the London County Council and the water companies were keenly desirous that the Bill should pass. Mr. PEMBER could not say that the companies were keenly desirous that the Bill should pass; they wished to assist the Committee to so amend it that it might become a just Bill (which being interpreted means that they should obtain a pecuniary compensation of large amount).

At the sitting of May 15th Mr. FITZGERALD, K.C., took exception to the strictures of Mr. Pember and stated that he had said that although the interests of the water companies and of the London County Council did not always agree they were agreed that this Bill should not become law. That was the inference he had drawn; the inference was, he was now told, incorrect. He therefore withdrew and would proceed on the assumption that both the water companies and the London County Council wished that the Bill should become law.

Lord BALFOUR of BURLEIGH said that they would take it that these two bodies desired to assist in improving the Bill.

The Committee then proceeded to consider the financial provisions proposed in regard to the expenses of the Water Board and Mr. BLENNERHASSETT, K.C., on behalf of the City of Westminster, proposed a clause providing that before any charge fell on the rates the Water Board should exercise to the full the powers of charging at present enjoyed by the companies whose undertakings were to be transferred to the Board. This clause, subject to some amendment, was accepted.

Clause 12, which deals with powers of borrowing by the Water Board, was agreed to.

Clause 13, which relates to the issue of water stock, was not fully discussed and a decision in regard to it was deferred.

Clause 14 (which makes provision as to discharge of loans), Clause 15 (which deals with accounts and audit), Clause 16 (which provides as to the borrowing power of certain local authorities), and Clause 17 (which deals with the application of capital receipts) were agreed to.

ANNUAL GENERAL MEETING OF THE MEDICAL DEFENCE UNION.

THE annual general meeting of the Medical Defence Union was held on May 15th at the registered offices of the union at 4, Trafalgar-square, London, under the presidency of Mr. M. A. MESSITER.

The PRESIDENT, in moving the adoption of the report of the council, congratulated the members of the union on the satisfactory condition of their affairs. Their financial position was absolutely sound, their work increased as their members increased, and so did their expenses, but correspondingly their income increased. At the end of the year they had in hand £1100 and that was a sufficient proof of the vitality of the union. They had had a quiet year but the work had been very important. The union had lost the services of Dr. W. S. A. Griffith as president through his resignation. The choice of president had fallen on himself which he accepted as a compliment to the provinces. The system of auditing their accounts had been altered and the auditor was paid a somewhat larger sum so as to ensure more perfect security against irregularities. The case of Martin *v.* Allen referred to in the report of the council was of great importance. It was a case in which a matron at a hospital in Belper had brought an action for libel against one of their members. After three days' trial the jury failed to agree as to a verdict. The case was re-tried and though the union gained a moral victory the case was lost by them. That case, however, was the only one lost during the year. In regard to the Consultative Institute of Birmingham and Dr. Irvine he did not think it necessary to go into details. That matter was absolutely closed. The Consultative Institute of Birmingham had come to an end owing to the action taken by the council of the union in charging Dr. Irvine before the General Medical Council. In consequence of what they had done it had been found impossible to get any medical man to take the appointment offered by the institute. Referring to the case of Dr. R. Rendall he reminded them that the General Medical Council had passed a resolution strongly disapproving of practitioners associating themselves with medical aid societies that touted for patients. That resolution did not carry anything penal with it but the union considered that it would be right to take before the General Medical Council a definite case and the results of their action in regard to Dr. Rendall had been in every way satisfactory. As a matter of fact, since the decision of the General Medical Council medical practitioners associated with these medical aid societies had resigned wholesale and so far as could be gathered from the reports which reached the union the societies involved would find it extremely difficult, if not impossible, to obtain men to fill the vacancies. He thought that case ought to be well known to all members of the medical profession, and he thought that medical men who remained associated with medical aid societies who touted for patients should sever themselves from those institutions. If they did not do so the union would consider the advisability of taking further cases before the General Medical Council. In regard to the expenses incurred for legal work 12 cases involved a total expenditure of £989 but in the remainder the expenditure was not heavy. He emphasised the fact that the Medical Defence Union was quite prepared to fight for, and to defend, their members and never compromised. They were able to do this regardless of what was paid for the defence of any particular member. He thought that that ought to be known because there were many members of the profession who were forgetful of the fact that at any time they might be involved in an action which they would have to defend for themselves. Their solicitor, Mr. W. E. Hempson, said that his experience was that the medical man of all professional men was the one almost invariably selected for speculative actions. Dr. W. T. Law, who successfully defended an action brought against him that was denounced by the judge as a ridiculous one, was in the end obliged to pay £700 for costs. Dr. Law was not a member of that union and appeals for help had appeared in the medical journals. He himself thought that such appeals were not right and it was his opinion that the general body of the profession were of the same opinion.

The motion for the adoption of the report was seconded by Mr. A. C. ROPER and carried unanimously.

Mr. T. GUNTON ALDERTON moved, and Dr. M. BEVERLEY seconded, the adoption of the accounts which was carried unanimously.

Dr. J. S. FERRIS proposed that £100 be paid to provincial members of the council *pro raté* for railway fares when attending council meetings.—This was formally seconded and carried unanimously.

Dr. W. A. Elliston, J.P., Mr. J. Roche Lynch, and Mr. V. A. Jaynes were re-elected members of the council, and upon the suggestion of Mr. P. ROSE, supported by Mr. R. F. TOMLIN, the PRESIDENT intimated that Mr. J. T. Macnamara would be elected a vice-president with a seat on the council.

Dr. H. W. LANGLEY BROWNE proposed the re-election of the auditor, Mr. L. Hardy.—This was seconded by Dr. W. RIGDEN and carried unanimously.

Mr. STAMFORD FELCE moved a vote of thanks to the solicitor to the union, Mr. W. E. Hempson, and to the general secretary, Dr. A. G. Bateman.—This was seconded

by Dr. M. BEVERLEY and after being carried unanimously was replied to by the officials named.

A hearty vote of thanks to the President for taking the chair was accorded on the motion of Dr. W. S. A. GRIFFITH.

THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITION.

THIS annual exhibition, which was opened at Queen's Hall, Langham-place, on May 20th, continues to play a useful rôle inasmuch as it affords general practitioners, surgeons, hospital nurses, and others in London an opportunity of making acquaintance with the newest special foods and drugs and surgical and sanitary appliances. The organising committee may be congratulated on now having established an annual event which has secured for its *clientèle* a very fair proportion of the medical profession. The exhibition is distinctly instructive, although it is true that many well-established preparations, drugs, and appliances are on view again and again, yet there will invariably be found some novelties marking the progress of medical science in its various collateral branches. At any rate, the increasing number of physicians, surgeons, and the members of hospital staffs who attend must be a very encouraging fact to those concerned in organising the exhibition.

A feature of the exhibition this year was the number of electrical appliances shown. Thus, the exhibit of the General Electric Company, 67, 69, 71, 88, and 92, Queen Victoria-street, E.C., attracted a good deal of interest chiefly perhaps on account of the simple apparatus shown for the production of ultra violet rays in photo therapeutics. This company also showed a useful apparatus for obtaining a direct current when only an alternating current is available. Other apparatus for x-ray and high frequency treatment was shown, while simple and convenient apparatus for the production of ultra violet rays from a four-inch spark induction coil with a condenser was inspected by those interested in the execution of this treatment without involving cumbersome apparatus. Electric Baths were exhibited by the Electric Trading Company, 52, Leadenhall-street, E.C., the Dowsing Radiant Heating Company, Limited, 24, Budge-row, Cannon-street, E.C., and by the Sanitas Electrical Company, Limited, 7A, Soho-square, W. The last-named exhibited also a new lamp for the production of ultra violet rays. It is called the "Dermo" lamp and has iron for its terminals, giving what has now been called an iron light. Messrs. Harry W. Cox, Limited, 9, 10, and 11, Cursitor-street, Chancery-lane, E.C., showed their latest x ray apparatus and a new improved electrolytic break. The electric current is utilised by Messrs. W. Bellack and Company, 147, Oxford-street, W., for actuating the "Muschik vibratorium," which is a rapidly-pulsating hammer which is brought in direct contact with the body, the exciting penetrating vibration stimulating the blood-flow and exercising a good effect, amongst other things, on stiff joints.

There was again a fair display of hospital sanitary appliances, Messrs. Doulton and Company's (Lambeth, S.E.) exhibit claiming, perhaps, first attention. They showed examples of a special metallo-keramic joint as applied to closets, a strong white glazed fire-clay mortuary table, white vitreous cast-iron baths (on wheels) for hospital use, bed-pan sinks, and lavatories. Messrs. George Jennings, Limited, 63 and 67, Lambeth Palace-road, S.E., showed similar examples of improved sanitary appliances adapted for general use and for hospitals and sanatoriums, &c. Their patent valves by which hot water cannot be turned on without first opening the cold valve and by which without any risk of accident to the patient any desired temperature of water can be obtained are well worth mentioning. Messrs. Defries, Limited, 146 and 147, Houndsditch, E.C., exhibited the Pasteur filter in various forms and the Equifex disinfecting and deodorising apparatus. The London Necropolis Company, 121, Westminster-bridge-road, S.E., exhibited photographs illustrating their methods of disposal of the dead and the cemetery at Brookwood, near Woking. This company undertakes the so-called "earth-to-earth" disposal in which the natural dissolution of the body is favoured by the action of the earth. Particulars were given also as to the conduct of cremation and its cost.

Disinfecting compounds were well represented, as were also special soaps. Messrs. Major, Limited, of Scullcoates, Hull, for example, showed a series of sanitary preparations comprised under the distinctive term "Eucryl," including a bath preparation, a toilet soap, an ointment, and a tooth powder. The Jeyes Sanitary Compound Company, Limited, 64, Cannon-street, E.C., exhibited their well-known Creolin compounds and Messrs. Newton, Chambers, and Co. of Thorncliffe, near Sheffield, decorated their stall with a large variety of "Izal" preparations. The feature of the exhibit of "Oowana," Limited, 205, Victoria-street, S.W., was a special toilet soap said to contain absolutely no animal matter or artificial colouring, the ingredients selected being of a specially pure description. Attention, it is stated, is also paid to the avoidance of alkaline excess without impairing the detergent power. The Berkefeld Filter Company, Limited, of 121, Oxford-street, W., submitted several examples of their new "tubor" improved germ-proof filter to the notice of the visitors.

As regards the section of special foods and drugs it may be said that this display was somewhat smaller in scale than in previous years, although very general interest was shown in the preparations of this class. We propose to deal with this section next week.

(To be concluded.)

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8648 births and 4919 deaths were registered during the week ending May 17th. The annual rate of mortality in these towns, which had been 16·6 and 17·2 per 1000 in the two preceding weeks, further rose to 17·3 per 1000 last week. In London the death-rate was 16·2 per 1000, while it averaged 17·7 in the 75 other large towns. The lowest death-rates in these towns were 7·2 in Walthamstow, 8·3 in Hornsey, 8·0 in Warrington, 9·4 in Devonport, 10·3 in Hastings and King's Norton, 11·0 in Bournemouth, and 11·3 in Aston Manor; the highest rates were 23·5 in Bolton, 23·7 in South Shields, 23·9 in Manchester, 24·9 in St. Helens, 25·7 in Middlesbrough, 26·3 in Wigan, 26·4 in Sunderland, and 27·0 in Bootle. The 4919 deaths in these towns included 516 which were referred to the principal zymotic diseases, against 534, 489, and 519 in the three preceding weeks; of these 516 deaths 144 resulted from measles, 126 from whooping-cough, 67 from diphtheria, 51 from scarlet fever, 49 from diarrhœa, 48 from small-pox, and 31 from "fever" (principally enteric). No death from any of these diseases was registered last week in Hastings, Rotherham, or West Hartlepool; in the other towns they caused the lowest death-rates in Brighton, Portsmouth, Norwich, Wolverhampton, Derby, Birkenhead, and Halifax, and the highest rates in West Bromwich, St. Helens, Barrow-in-Furness, Sunderland, South Shields, and Gateshead. The greatest mortality from measles was recorded in Bournemouth, St. Helens, Bury, Rochdale, Barrow-in-Furness, Bradford, Sunderland, and Rhondda; from scarlet fever in West Bromwich, Smethwick, Bolton, and South Shields; from whooping-cough in Walsall, West Bromwich, Wallasey, Bootle, St. Helens, South Shields, Gateshead, and Tynemouth; from "fever" in Merthyr Tydfil; and from diarrhœa in Northampton and Merthyr Tydfil. The mortality from diphtheria showed no marked excess in any of the large towns. Of the 48 fatal cases of small-pox registered last week 37 belonged to London, six to West Ham, and one each to Tottenham, Leyton, Birmingham, Newcastle, and Hornsey. The number of small-pox cases under treatment in the Metropolitan Asylums hospitals, which had been 1515, 1442, and 1419 at the end of the three preceding weeks, had further declined to 1360 at the end of last week; 233 new cases were admitted during the week, against 367, 250, and 248 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2207, against 2188, 2222, and 2212 at the end of the three preceding weeks; 270 new cases were admitted during the week, against 283, 258, and 256 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been

315, 240, and 231 in the three preceding weeks, further declined last week to 217, and were 41 below the corrected average number. The causes of 65, or 1·3 per cent., of the deaths in the 76 towns last week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Salford, Bradford, Leeds, Hull, and in 42 other smaller towns; the largest proportions of uncertified deaths were registered in Hastings, Liverpool, St. Helens, Blackpool, Sheffield, Stockton-on-Tees, Gateshead, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined from 24·6 to 18·1 per 1000 in the four preceding weeks, rose again to 19·4 per 1000 during the week ending May 17th, and showed an excess of 2·1 per 1000 over the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 11·2 in Leith and 15·3 in Edinburgh to 21·6 in Glasgow and 25·0 in Perth. The 628 deaths in these towns included 25 which were referred to whooping-cough, 21 to measles, 19 to diarrhœa, four to diphtheria, four to "fever," and one to scarlet fever. In all 74 deaths resulted from these principal zymotic diseases last week, against 78 and 46 in the two preceding weeks. These 74 deaths were equal to an annual rate of 2·3 per 1000, which was 0·5 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 29, 28, and 16 in the three preceding weeks, rose again last week to 25, of which 10 occurred in Glasgow, seven in Aberdeen, and five in Edinburgh. The deaths from measles, which had been 15 and nine in the two preceding weeks, increased again to 21 last week and included six in Edinburgh, five in Paisley, four in Glasgow, three in Perth, and two in Greenock. The fatal cases of diarrhœa, which had been 17, 23, and 13 in the three preceding weeks, rose again last week to 19, of which 11 were registered in Glasgow, three in Edinburgh, and three in Dundee. The deaths from diphtheria, which had been four, four, and three in the three preceding weeks, rose again to four last week, and were all recorded in Glasgow, where two of the four fatal cases of "fever" also occurred. The deaths referred to diseases of the respiratory organs in these towns, which had been 161, 138, and 113 in the three preceding weeks, numbered 114 during the week under notice, and exceeded by 13 the number in the corresponding period of last year. The causes of 15, or more than 2 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·8, 24·9, and 22·6 per 1000 in the three preceding weeks, rose again to 24·8 per 1000 during the week ending May 17th. During the past four weeks the death-rate has averaged 24·8 per 1000, the rates during the same period being 16·5 in London and 16·7 in Edinburgh. The 180 deaths of persons belonging to Dublin registered during the week under notice were 16 above the number recorded in the preceding week and included 13 which were referred to the principal zymotic diseases, against 10, nine, and 12 in the three preceding weeks; of these, three resulted from measles, three from diphtheria, three from whooping-cough, two from "fever," one from scarlet fever, and one from diarrhœa. These 13 deaths were equal to an annual rate of 1·8 per 1000, the zymotic death-rate during the same period being 2·0 in London and 2·3 in Edinburgh. The fatal cases of measles, which had been two, three, and six in the three preceding weeks, declined again last week to three. The deaths from whooping-cough, which had been one and two in the two preceding weeks, increased last week to three. The mortality from diphtheria also showed an excess over that recorded in recent weeks. The 180 deaths in Dublin last week included 19 of children under one year of age and 41 of persons aged upwards of 60 years; the deaths of infants were 15 below the number in the preceding week, while those of elderly persons showed a slight excess. Four inquest cases and three deaths from violence were registered during the week; and 64, or more than a third, of the deaths occurred in public institutions. The causes of eight, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: W. H. Norman to the *Ariadne*; G. T. Broatch to the *Caledonia*: R. T. A. Levinge to the *Calliope*; and J. Shand to the *Agincourt*. Surgeons: J. W. Craig to the *Calliope*; C. J. E. Cock to Pembroke Dockyard; and T. T. Jeans and R. H. Mornement to the *Ariadne*.

ROYAL ARMY MEDICAL CORPS.

Major F. J. Greig joins at Aldershot and is posted to the Depôt for duty. Lieutenant F. Winslow joins at Aldershot and is posted to the Cambridge Hospital for duty.

Lieutenant-Colonel E. A. H. Roe, retired list, joins at Belfast for employment with the troops there. Lieutenant-Colonel D. F. Franklin, senior medical officer in charge of the Cambridge Hospital, Aldershot, holds himself in readyness to embark for South Africa.

Colonel Henry Comerford retires on retired pay. Dated May 17th, 1902.

Lieutenant-Colonel W. S. Pratt is granted the local rank of Colonel whilst acting as Principal Medical Officer at Gibraltar. Dated March 17th, 1900.

The undermentioned officers, on having relinquished their temporary commissions for service in South Africa, are granted honorary rank in the Army, with permission to wear the uniform of the corps:—To be Honorary Major: Major H. Wright. Dated Feb. 14th, 1901.—To be Honorary Captains: Captain C. E. Douglas, dated March 27th, 1901; Captain G. G. Oakley, dated Oct. 7th, 1901; Captain C. A. McMunn, dated Nov. 18th, 1900; Captain G. Black, dated Jan. 17th, 1901; Captain S. Linton, dated Feb. 27th, 1902; Captain F. W. Grant, dated Feb. 23rd, 1901; Captain E. J. G. Berkley, dated April 9th, 1901; and Captain R. Pollock, dated Feb. 16th, 1901.—To be Honorary Lieutenants: Lieutenant J. W. Smith, dated Nov. 6th, 1900; Lieutenant R. W. Michell, dated July 7th, 1901; Lieutenant J. C. Taylor, dated Dec. 21st, 1901; Lieutenant J. K. Tomory, dated August 14th, 1901; Lieutenant A. H. McDougall, dated August 22nd, 1901; Lieutenant J. C. G. Macnab, dated March 27th, 1901; and Lieutenant W. Macrae Taylor, dated Nov. 29th, 1901.

IMPERIAL YEOMANRY.

North Somerset: Surgeon-Lieutenant-Colonel J. J. Saville resigns his commission, with permission to retain his rank and to wear the uniform of the regiment on retirement.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd East Riding of Yorkshire: Surgeon-Lieutenant T. Cameron resigns his commission.

Royal Engineers (Volunteers): 1st Devonshire and Somersetshire: Surgeon-Lieutenant A. S. Wohlmann resigns his commission. Edward Gaved Stocker to be Surgeon-Lieutenant.

Rifle: 2nd Cadet Battalion the King's (Liverpool Regiment): The undermentioned officer resigns his commission: Surgeon-Lieutenant F. H. Allfrey. 2nd Volunteer Battalion the East Yorkshire Regiment: Surgeon-Lieutenant J. Chestnutt to be Surgeon-Captain. 17th North Middlesex: F. H. Gervis to be Surgeon-Lieutenant.

VOLUNTEER INFANTRY BRIGADE.

Bedford: Surgeon-Lieutenant-Colonel D. Thomson, 3rd Volunteer Battalion the Bedfordshire Regiment, to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade.

VOLUNTEER INFANTRY BRIGADE BEARER COMPANIES.

Bedford: Surgeon-Captain E. F. Bindloss, from 1st (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment, to be Surgeon-Captain, and to command under paragraph 55A Volunteer Regulations.

Seaforth and Cameron: The undermentioned gentlemen to be Surgeon-Lieutenants:—David John Kelly and Roderick McKenzie Grant.

SOUTH AFRICAN WAR NOTES.

Lieutenant Beatty, R.A.M.C., was reported to be slightly better on May 19th.

THE ROYAL MILITARY TOURNAMENT.

The present year will be a notable one for military spectacles and the coronation processions will, like those of the Diamond Jubilee of her late lamented Majesty Queen Victoria, serve to bring vividly before our minds the importance and vastness of our Empire. But the Royal Military Tournament has fulfilled this function, though in a smaller way, perhaps, for many years past and we trust that on this account, though not on this account alone, it will receive such support from the public as will make the tournament held in the year of the coronation of King Edward VII. a record one. Moreover, whilst the tournament serves to educate the public and encourages and develops skill at arms, the military charities may at the discretion of the Commander-in-Chief benefit greatly. Judging from the rehearsal which took place on Wednesday, May 21st, at the Agricultural Hall, Islington, and also from the programme of the following day, when His Majesty the King was present, there can be no question of the excellence of this year's tournament. There are, of course, the usual competitions of skill between the various arms, lemon-cutting, heads and posts, tent-pegging, &c., but the "displays" show several novel features. The display by the seamen of H.M.S. *Excellent*, always one of the most popular, draws forth deafening rounds of applause, while that by the Royal Marine Artillery is an exhibition of remarkable smartness and is highly appreciated by the spectators. The musical drive by the Royal Artillery, the musical Double Ride by the Royal Horse Guards, and the Display by Indian soldiers are items of the programme which are watched with keen interest, while the Historical Ride by the 2nd Provisional Regiment of Hussars, which this year takes the place of the "Pageant," is a spectacular performance quite equal to any of its predecessors.

MEDICAL AND SURGICAL AID FOR SICK AND WOUNDED OFFICERS.

The second report of the Duke of Abercorn's committee, dealing with the year 1901 from January to December, has been just issued. The fund has for its object the relief of sick and wounded officers. Of the cases which have been considered, the majority of which received assistance, 70 were in need of medical care and 77 were surgical cases. The report says: "In addition to officers of the regular army, officers of the Royal Marines, the Imperial Yeomanry and the colonial forces have again benefited by the fund. The committee has also been able to extend the advantages of the society to army nurses invalided home. Dr. Donald Hood and Mr. Morgan have continued to place their invaluable and unremitting professional services gratuitously at the disposal of the committee and the patients, and the King has marked his appreciation by conferring upon these members of the committee the Companionship of the Victorian Order. It is largely owing to their almost daily attention that it has been possible to successfully administer the business of the fund. ..... The places of Dr. Hood and Mr. Morgan were most kindly filled during August and September by Dr. A. Elliot, Dr. G. Johnston, and Mr. T. H. Kellock. ..... The assistance which the executive committee continue to receive from the hard-worked leaders of the profession in their special departments has been invaluable. These services have been freely and ungrudgingly bestowed. ..... Sir Sydney Waterlow again offered free accommodation at Cannes to cases recommended by the committee and his generous help has been of great value. Colonel J. Stacpole, C.V.O., has continued to render valuable service to the fund at Southampton and the committee is also much indebted to Lieutenant-Colonel H. Charlesworth, R.A.M.C., Lieutenant-Colonel E. J. Erskine Risk, R.A.M.C., and Captain G. B. Stanistreet, R.A.M.C." On Dec. 31st, 1901, the funds in hand did not amount to £500. Since that time they have been further depleted, and the commitee makes an earnest appeal for funds.

We are glad to see that the Director-General of the Army Medical Staff has put before his officers a proposal which has for its object the establishment of a fund for perpetuating the memory of distinguished officers of the Royal Army Medical Corps. The memorial, it is suggested, should be placed in the headquarters mess. The medical department has contributed many distinguished officers to the army and a lasting memorial to their memory is deserved.

Obituary.

WILLIAM MILLER ORD, M.D., F.R.C.P. LOND.,

CONSULTING PHYSICIAN TO ST. THOMAS'S HOSPITAL.

WE deeply regret to announce the death of Dr. William Miller Ord, consulting physician to St. Thomas's Hospital, which occurred on May 14th at the Hall, Salisbury, the residence of his son, Dr. W. W. Ord.

Dr. William Miller Ord was born on Sept. 23rd, 1834, at Brixton-hill, Surrey, and was therefore in the sixty-eighth year of his age. He was the son of Mr. George Ord, F.R.C.S. Eng., who had long been in practice at Brixton. He received his education at King's College School and at St. Thomas's Hospital, and commenced his professional work as assistant to his father. His intention to enter upon general practice was, however, altered by circumstances—circumstances which enabled him to earn wide fame as a scientific physician and a clinical teacher. For it is a fact that Dr. Ord enjoyed for many years the first reputation in London as a clinical teacher. In the multiplicity of schools which the metropolis possesses a clinical teacher may be brilliant and yet not receive the due recognition of his worth and abilities. In the northern universities this does not happen. There, if a teacher be successful and attractive his fame is known far and wide; it is spread by his students and pupils. In this respect, therefore, London is at a disadvantage compared with, say, Edinburgh. The brilliancy of a man's teaching in a London school of medicine is shed on a comparatively small field. Dr. Ord suffered from this defect, if it may be so called. But that he was a clinical teacher of the first rank all who have been privileged to sit under him will readily admit, and as far as it is possible for a London teacher to earn fame in other schools than his own Dr. Ord accomplished the same. Wherein did his strength as a teacher exist? It existed in the personality of the man himself. Gifted with a most retentive memory, with the faculty of taking infinite pains in all that he undertook, and with great greed for knowledge, he was always, from his boyhood to his final retirement from active work, a hard-working student. He won many prizes at his school, he gained medals during his career at his hospital, and he won distinctions at the University of London. After a brilliant studentship at St. Thomas's Hospital which culminated in the usual house appointments, he was subsequently appointed surgical registrar and afterwards demonstrator of anatomy.

Then his father required the help of his able son to meet the demands of a large circle of patients. Dr. Ord left the hospital and went to his father's assistance, where he enjoyed that best of all trainings for a physician—viz., a large and varied general practice. Many of the ablest physicians have laid the foundations of their subsequent success as consultants in a busy general practice and Dr. Ord was one of these. But he never severed his connexion with the hospital which he was later to adorn. Notwithstanding all the calls on his time which such an occupation demanded he accepted, when it was offered to him, the chair of zoology at his old medical school, at that time situated in its temporary home in the Surrey Gardens. And he had his reward. For when the new hospital was opened in 1871 by Her Majesty Queen Victoria Dr. Ord, having previously taken the Membership of the Royal College of Physicians of London, was appointed one of the assistant physicians to St. Thomas's Hospital, and relinquishing his private practice, to the great regret of his many patients, rich and poor, he began to practise as a consultant in Upper Brook-street. Nor was consulting work long in coming to him. It will always be a marvel to those who intimately knew his private life how he found time to see the people who came to consult him at home, to attend the hospital out-patient rooms, and to prepare and to deliver his lectures on physiology, to which chair he had at about this time been appointed. Yet his punctuality at the hospital and in the lecture-room was proverbial and his lectures were models of simple clearness, showing signs of exhaustive care in their preparation.

In 1877 when he became full physician to St. Thomas's Hospital he attracted the more advanced and the deeper educated students. His method of bedside teaching was peculiarly his own. It was not based so much on the style of Hughes Bennet and Murchison, so distinctive

of Edinburgh teaching, as on the model of the Paris schools. The report of a case having been read out by one of his clinical clerks Dr. Ord would, after verifying or correcting the physical signs, give a clear and concise verbal picture of the patient's condition, he would predict the possible complications which might occur, and would give his reasons for every remedy which he proposed to employ. And withal his diction was so polished and his store of information was so vast that he would charm the students who came to his wards from Oxford and Cambridge by his classical methods and language, at the same time impressing all with his clinical acumen and knowledge. Dr. Ord's gift of clear and eloquent exposition doubtless came to him as the result of his accurate practical work. He had a first-hand experience of the difficulties that beset the path of the student and knew in what direction they required removal. How hard he worked at the microscope in his endeavours to elucidate the varying forms which urinary crystalline bodies may assume in the presence of colloidal or other media he has himself recorded. How he studied minute points in pathological anatomy, and made his students study them also, all those who worked under him will remember. For Dr. Ord the microscope was an aid to diagnosis and the treatment of his patient rather than for the verifying of a diagnosis after death. Much as the profession owes to Gull for the discovery of the disease known as myxœdema it still remained for Dr. Ord to work out the pathology, to fill in the picture of signs and symptoms, and finally to give it the stamp of nomenclature. And his painstaking work deserved the recognition that it has everywhere received.

But besides being an able physician and teacher Dr. Ord was a man of the broadest education. As a classical scholar he could hold his own. His knowledge of English literature embraced the writings of the earlier English dramatists and of the great compilers of British naval and military history He was familiar with every plant in the field, common, or hedgerow, and he had a close grasp of geology, as well as of the laws governing the forces of nature.

Personally, he was the warmest of friends and a most genial acquaintance. His generosity, too, so long as he knew that there was real distress, did not stop at the placing of his great skill at the disposal of the sick, but he gave freely from his purse. "Many have been the weekly doles which I have seen him bestow on people who though poor had no other legitimate claim on his benefactions" writes one of Dr. Ord's colleagues to us, and his experience is the same as our own. Though it may probably be said that no single man is necessary in our great profession, yet it will be felt by most of us that William Miller Ord's death has left a gap which will take many years to fill.

Dr. Ord was twice married, and his second wife survives him. He leaves one son, Dr. W. W. Ord, and four daughters.

JAMES SCARBOROUGH LOE, M.R.C.S. ENG., L.S.A.

MR. J. S. LOE, who died at his residence in Chapeltown-road, Leeds, on April 20th, had held for a great many years a very prominent position in that city. He was born at Stony Stratford, Buckinghamshire, and when six years old was taken to Leeds where his father was a well-known medical man. Having resolved to follow his father's profession Mr. Loe studied both in the Leeds School of Medicine and at Guy's Hospital, obtaining the diploma of L.S.A. in 1852 and that of M.R.C.S. Eng. in 1853. His professional life, therefore, covered a period of nearly 50 years, the whole of which was spent in Leeds, where he had a large practice and held several public appointments, including those of medical officer to one of the Poor-law districts, surgeon to the town mission, and honorary surgeon to the fever hospital. Mr. Loe took an active part in municipal life and both as a city councillor and an alderman his professional knowledge enabled him to render important public services when chairman of the City Hospitals Committee and deputy chairman of the Sanitary Committee. In the former capacity he was the means of effecting great improvements in the infectious diseases hospital and he was a warm supporter of the scheme for providing adequate hospital accommodation at Manston, together with a small-pox hospital at Killingbeck. Mr. Loe had a long connexion with the volunteer force. He entered the Leeds Rifle Corps as a private in February, 1860, before the regiment had completed the first year of its existence, so that he had little short of 40 years' service when he retired in 1899 with the rank of brigade-surgeon-lieutenant-colonel. The deceased, who was in his seventy-first year, was twice married and has left a widow.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Julius Bruck, Professor of Odontology in the University of Breslau, at the age of 61 years.—Dr. Hans von Hebra, Extraordinary Professor of Dermatology in Vienna and son of the distinguished dermatologist. He was president of the Austrian Temperance Society and had of late years interested himself considerably in questions of municipal hygiene.—Dr. Johann Habart, a well-known Austrian military surgeon whose experiments on small-bore rifle wounds have attracted considerable attention.—Dr. Voskresenski, *privat-docent* of Midwifery in Kieff.—Dr. F. Frusci, Professor of Surgical Anatomy in Naples.—Dr. Theodor Römpler, author of several works on phthisis.—Dr. Florian Beely, a well-known Berlin orthopædic surgeon, at the age of 56 years.—Dr. Möller, chief medical officer of the Danish army.—Dr. Friedrich Leopold Goltz, the well-known Strasburg physiologist. He was born in Posen in 1834, and after studying medicine in Konigsberg taught physiology there and at Halle until the foundation of the German University of Strasburg, when he was selected for the chair of Physiology, which he filled until little more than a year ago, when he was obliged to retire on account of failing health. His researches on the functions of the brain and spinal cord are well known in all countries.—Dr. Meredith Clymer, formerly Professor of Nervous Diseases at the Albany Medical College.—Dr. N. Kalindero of Bucharest, foreign correspondent of the Paris Academy of Medicine.—Dr. F. Trautmann, Extraordinary Professor of Otology in Berlin.

Correspondence.

"Audi alteram partem."

REMOVAL OF SMALL-POX PATIENTS.

To the Editors of THE LANCET.

SIRS,—With reference to your annotation on page 1335 in your issue of May 10th, *re* removal of small-pox patients, an inaccuracy appears in the second line of the first paragraph. The conviction of Quelch did not take place until May 10th and not on May 2nd as stated. The divisional court was moved to quash by *certiorari* the justice's order to remove Quelch to the small-pox hospital, which order was granted on application before Mr. T. F. Jones, one of the justices for Surrey. A short statement of the facts of the case is that on March 2nd I was asked to see the first case in consultation with Dr. Graham Morris of Wallington, on which date I was unable definitely to say whether Quelch was suffering from small-pox or not. On the following day I saw him early in the morning and found it to be a well-marked case. In consequence of the refusal to allow the patient to be moved I was obliged to obtain a justice's order. It was after this that Mr. T. R. Allinson saw the patient. I would point out that my contention that the house was not suitable for the treatment of small-pox cases was justified by the fact that a fortnight later the father contracted small-pox.

I am, Sirs, yours faithfully,

C. M. FEGEN,
Croydon, May 13th, 1902. Medical Officer of Health.

LARGE DOSES OF STRYCHNINE IN SURGICAL SHOCK.

To the Editors of THE LANCET.

SIRS,—Dr. Gordon Sharp's single case is of interest in showing the possibilities as opposed to the probabilities of large doses of strychnine in surgical shock. The favourable results of large doses of strychnine having been thoroughly established by many independent observers, surgeons who have had repeated personal experiences of these results are not likely to be deterred by occasional cases such as that of Dr. Sharp from giving a collapsed patient the chance

of life which strychnine given in ultra-pharmacopœial doses can alone afford. To allow a patient to die from shock without the chance of recovery obtainable from large doses of strychnine, because such doses had in rare instances produced severe spasms, would be about as reasonable as to decline to open the abdomen of a patient dying from internal hæmorrhage because operation had failed to save every case and had occasionally even expedited the fatal issue.

I am, Sirs, yours faithfully,

Plymouth, May 18th, 1902. C. HAMILTON WHITEFORD.

LEFT-OFF CLOTHING FOR OUR SOLDIERS.

To the Editors of THE LANCET.

SIRS,—May I again appeal through your columns for left-off clothes for soldiers as the stock is about exhausted? Through the generous response to my last appeal we have been able to provide clothing for over 300 who have returned from the war without which they would have been unable to obtain employment, and the number of men returning is on the increase and will no doubt be so for some time.

Parcels should be sent to Captain Holmes, 70, Victoria-street, S.W., who will acknowledge their receipt.

I am, Sirs, yours faithfully,

HERBERT F. EATON, Major-General,

May 20th, 1902. Chairman Soldiers and Sailors' Help Society.

WHAT IS SCROFULA?

To the Editors of THE LANCET.

SIRS,—In the "Revised Classification of Causes of Death in the National Records," published in THE LANCET of May 10th, 1902, p. 1340, for the guidance of medical practitioners I notice among general diseases the antiquated term "scrofula." It would be interesting to learn from Dr. John Tatham, under whose sanction the above list has appeared, what is meant by this term, how it can be regarded as a cause of death, and why, as it has now become obsolete, the term should have been retained in a classification purporting to be official and authoritative.

I am, Sirs, yours faithfully,

May 19th, 1902. PES.

ERRATUM.—In the letter from Mr. F. Bolton Carter published in THE LANCET of May 17th, 1902, p. 1427, under the heading "Large Doses of Strychnine in Surgical Shock," the writer was made to say that the largest dose given without any after-symptoms was 30 minims during an operation for perforated gastric ulcer, the patient recovering. The number should have been 50, not 30; the error was ours.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague Epidemic.—Changes of Policy with Results in Bombay City.—Prayers by Hindoos in Calcutta to stop the Plague.—The Latest Famine Returns.

A DECIDED improvement is shown in this week's plague mortality. The total for the whole of India has declined from 24,380 to 19,419 and the diminution is general. The Punjab still continues to be the most affected area. The figures just published for the past week are: Bombay city, 658 deaths against 696; Bombay Presidency, 2045 against 2093; Karachi, 136 against 137; Madras Presidency, 60; Calcutta, 588 against 603; Bengal, 760 against 925; the United Provinces, 773; the Punjab, 14,145 against 16,281; Mysore, 131; Rajputana, 37; and Berar, 79. The disease seems to be at its worst in Karachi and is commencing the down grade in Calcutta and Bombay. Another case has been imported into Rangoon but so far the disease has not spread.

The report of the municipal commissioner for Bombay during the year ending May 31st, 1901, shows the effects of changes in plague administration. All compulsory measures for that year except for disinfection were withdrawn. The health camps were continued but admission was voluntary. The features to be noted are that the mortality from plague showed a considerable increase and that inoculation was much less resorted to. The increase of plague may not have been due to alterations in plague measures, but the decline of inoculation from 150,000 in 1900 to 7000 in 1901 must certainly be ascribed to the changed policy. There was a large decrease of persons admitted to the health camps. On the other hand, it is said that concealment of cases was much less resorted to and that a better feeling existed amongst the people. It is argued also that a larger proportion of cases came under notice. Lastly (and this is apparently a great point), there was a very considerable saving in expenditure.

To illustrate native views of the plague it may be mentioned that the Hindoos of Calcutta have fixed upon May 26th for a special *puja* to be offered to the goddess Kali to propitiate her and to pray for her intervention to stop the plague. There will be chanting of humiliatory and supplicatory hymns for six hours—from six to midnight. An enormous congregation is expected to the famous shrine. I have not heard of any other steps being taken by the native community to assist in the control of plague and disinfection of premises is now the one and only measure adopted by the authorities. The natural course of an outbreak of plague can be well studied in Calcutta and Bombay city where it is now showing a clinical course undisturbed by treatment.

The famine returns still indicate widespread distress. There are now 370,000 persons under relief.

April 25th.

PLAGUE PRECAUTIONS AT MARSEILLES.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

A Visit to the Quarantine Island of Frioul.—The Modern and Improved Disinfecting Station.—Infected Bones from Bombay.—How the Passengers and Crews are Disinfected.—An Admirable Establishment Insufficiently Manned.—Savants in Quarantine.

ON the port sanitary authorities of Marseilles rests a heavy responsibility. Marseilles has often been described as the door of the East and to-day, from the East, plague-stricken ships make for the port of Marseilles. If the danger of this traffic was occasioned only by human beings it would be comparatively easy to take precautions giving a good prospect of success, but there is also the merchandise and, worse still, there are the rats. In one respect, however, Marseilles is fortunately situated. There are islands a few miles out at sea where there are good anchorage and shelter for ships and where quarantine and disinfection can be carried out at a safe distance from the port. For this purpose the island of Frioul was selected many years ago and time enough has elapsed for this quarantine station to acquire an unenviable notoriety. But to-day more intelligent methods are applied and the complaints are not so frequent. Some 15 years have elapsed since last I visited this quarantine station and I am now able to bear witness to very great improvements. When last I was at Frioul the chief structure consisted of a broad and lofty shanty. Within its bare walls there stood a number of counters or tables. On these tables merchandise, bales of rags, and the like, taken from ships were spread out. Under the tables a certain amount of sulphur was burnt. The shed was so large and the crevices were so numerous that the fumes soon became diffused throughout the surrounding space and escaped. It was found that the fumigation even failed to kill the fleas. Yet this was called disinfection. All is altered now and the fear of plague has very materially contributed to the improvements effected. As a suitable beginning it may first be noted that a landing-stage has been built. Though it is but a rough and hastily-erected structure it greatly facilitates the loading and unloading of ships. Down the centre of this jetty there is a high wooden palisade. On one side of this barrier the infected goods are landed and on the other side they are placed on board the steam launches and barges that convey them back to the ships at anchor after they have been disinfected. A Decauville narrow-gauge railway line has been laid on each side of this partition and it saves much labour and loss of time. One line leads into the disinfecting station; the other line starts from the back and the outside of the station and takes the disinfected goods back to the pier, but before reaching this landing-stage there is a third line, a loop line which goes to a great storehouse or dock where the goods can be stored for some time.

Thus a ship need not wait at Frioul till its cargo has been disinfected but can proceed to Marseilles and land its passengers and the goods can be safely stored till such time as it may be convenient to remove them.

A more rational process of disinfection is now practised. Fumigations are carried out on board ship where an accurate estimate of the cubic space to be dealt with can be obtained. The rule is to burn 20 grammes of sulphur per cubic metre. On shore there are two sorts of disinfection practised—that which is applied only to the outside of boxes, bales, and cases, and the through-and-through disinfection of body-linen, clothes that have been worn on the journey, bedding, &c. For the former process a very ingenious system of hydrants has been established. At the further end of the disinfecting station there is an engine-room. Here there is a cistern filled with a solution of creolin. A pump is attached and worked by the engine. The disinfecting solution is pumped into a copper cylinder which will stand a considerable pressure and the disinfectant is forced along the pipes to the hydrants. There are a number of these hydrants in the largest disinfecting room which are placed at a distance of a few feet from each other. To these a flexible hose is affixed. The nozzles are so arranged as to produce a fine spray and with this the disinfectors play upon the goods exposed, just as a fireman plays with water upon a fire. But as the amount of disinfecting fluid and the number of hydrants in use vary from time to time, while the engine continues pumping at the same rate, an explosion from over-pressure might occur. To meet this a safety-valve has been cleverly contrived by which when the pressure is too great an aperture is forced open and the disinfectant is poured back into the cistern instead of being propelled along the pipes to the hydrants. Thus the system is worked automatically and there is no need of skilled labour to watch over this machinery.

Apart from these hydrants there are a number of the portable spray-producers of the type which is known as the "Dose-métric Mélangeur Laurens." This is a hand-pump that can be wheeled along or lifted and carried by two men. It can thus be conveyed on board a ship or to any place where it may be needed and which is beyond the reach of the hydrants. The proportion of disinfectant mixed with the water used is automatically regulated and the apparatus can therefore be worked by an unskilled attendant and the required dose will be mechanically supplied with mathematical precision. The pressure can be obtained to produce the spray by turning a wheel, or simply by water-pressure if there is a water-main sufficiently near at hand to establish a connexion. This system of disinfection was first applied to some 2000 tons of broken bones imported from Bombay. These are the bones of small young cows held sacred by the Hindoos but exported by Mahomedans, and they often come from plague-infected districts. Many of these bones are forwarded to Lyons where the gelatin is extracted and *noir animal* is manufactured for the sugar refineries and for the making of wax. It was thought that such bones might convey the germs of plague, particularly if they were overrun by rats; hence the care which is taken to disinfect them with a spray delivered with great force and so finely subdivided that it spreads itself all over the bones.

When a ship arrives from a country where plague or yellow fever prevails it must stop at Frioul. The passengers are then medically and very carefully examined. The chief danger is with the natives—Indians, Lascars, and others—and they are made to strip. On one recent occasion, though it was thought that everyone on board was in good health, two natives were found with buboes due to plague infection. In such a case—that is, when there is actually plague on board—10 days of quarantine are imposed. If, on the other hand, there is no illness of this description on board, all the linen that has not been disinfected during the journey is, according to the now well-established rule, removed from the ships. But as nearly all the ships carry disinfecting stoves it is only such personal table- and bed-linen as has been quite recently in use that has to be landed at Frioul and there disinfected. Without waiting for the conclusion of this operation the ship may be allowed to proceed to Marseilles with at least its first-class passengers who may land on arriving. More rigour is displayed towards emigrants and steerage passengers generally.

Starting from the landing-stage the little railway line penetrates the first and largest compartment of the disinfecting station. Here merchandise and passengers' luggage are placed on counters and played upon with the disinfecting spray from the hydrants. The trucks that are loaded with the bedding, mattresses, table-linen, and body-linen travel further on to another and smaller compartment. Coming through the wall of this compartment there are four disinfecting stoves, two Blanc stoves, and two Geneste and Herscher stoves. The former are larger and better suited for mattresses and cumbersome articles. The stoves, of course, open at both ends. One end is on the infected side where the goods are inserted, and they are withdrawn on the other side of the wall and at the other end of the stove after they have been disinfected. Here another line with other non-infected trucks serves to convey the purified bedding, &c., back to the landing-stage. The disinfection is produced by steam under pressure which is occasionally discharged so as to secure the penetration and even distribution of the heat inside the mattresses. Each stove is fitted with what is described in slang but graphic parlance as a *mouchard*. This is a thermometer that records the internal temperature of the stove on a drum that revolves by clockwork. The director keeps in his pocket the key of this detective, which gives in a tracing a record setting forth how long each operation has lasted and to what amount of heat and what fluctuations of heat the disinfected articles have been exposed. This is a very valuable method of control and it dispenses with the necessity of constant personal supervision. It obviates, also, all errors. While luggage and bedding are thus being disinfected the passengers and crew are led to another department. Here there are 20 compartments, each having three subdivisions made of corrugated iron partitions. These compartments consist first of a little cabin where there is a seat and here the person to be disinfected takes off all his clothes, makes a bundle of them, and affixes thereto a metallic number that has been given to him. The bundle is at once taken off to the disinfecting stove. The passenger or sailor then enters the second or central portion or cabin. Here he finds some soap and on pulling a string, receives a warm or a tepid douche. After he has thoroughly washed himself he proceeds to the third subdivision of his compartment where he finds a wrap, dries himself, and awaits the arrival of his bundle of clothes, which is brought to him from the stove after it has been disinfected. He then goes out from the opposite side to that by which he entered and either returns to his ship or, if he is to be detained, proceeds to the quarantine quarters. Still further on there are other compartments where instead of douches there are warm baths and one of these is most luxuriously fitted up. Sometimes as many as 250 passengers have thus been disinfected in one morning, taking 20 at a time, the operation lasting about a quarter of an hour for each person. Passenger ships arriving at seven in the morning can very generally start for Marseilles by noon. But if there are many immigrants these are sent on to Marseilles later in the day by tugboats, while the mail-steamer leaves earlier with its first-class passengers. If the ship is suspected disinfectants are poured into all the dirty places. Sulphate of copper is used where the cattle have been and it is put down the drains.

The disinfecting station is an oblong building divided longitudinally, the right portion on entering being the infected side and the left being the disinfected side. In the partition wall glass panes—not windows that can be opened—have been fitted at different intervals, so that it is possible to see through without coming into contact with infected things or persons. Consequently, the disinfectors can be watched from the safe side while they are at work, and there is telephonic communication throughout. At the furthest end there is the engine-room where a considerable amount of work has to be done. There is the pumping of the disinfectant solution to supply the hydrants already described. Then there are the boilers to warm the water for the douches. This warm water and also cold water from the cistern outside have to be pumped up into large tanks overhead so that they may be delivered by gravitation wherever they are required. As the only supply is that of the rain-water, which is collected in a large underground system, this is apt to fall short, especially when there is much work to be done. Consequently an apparatus for the distilling of sea-water has been fitted up in the engine-room to make up for this deficiency. Then just outside the engine-room, but in the infected part of the building, there is a trough which has to be supplied with boiling water and here linen stained with pus or blood is soaked before it is put inside the stove.

If this were not done the linen would be stained and spoilt. For the stoves, engines, &c., full printed instructions are posted on the walls which are very useful when extra and inexperienced workers have to be engaged. On the day of my visit *La Provence* had just arrived from Buenos Ayres. There were 448 passengers on board and of these only 57 travelled first or second class. The rest consisted, for the most part, of disappointed Italian emigrants returning home. The ship had left eight days before cases of plague were reported from Buenos Ayres. The rule stipulates for 10 days and therefore, some precautions were taken. Through the glass partitions I saw some of the mattresses arrive and, plague or no plague, it seemed to me a very good thing that they should be disinfected. They were very filthy, which is not surprising considering the class of persons who had used them.

In all its details, by reason of the precautions enforced, the ample space devoted to the purpose, the ingenious mechanical appliances employed, and the care taken to disinfect the persons and the clothes of the passengers and the crews, and of the disinfectors themselves, this establishment commends itself to all who are interested in such matters and especially to port sanitary authorities. So far as the structure is concerned and the manner in which it has been planned the authorities are to be congratulated and it would be difficult to suggest any improvement. In thus expressing so favourable an opinion I am but repeating what Professor Koch of Berlin said when last he visited Frioul. There is, however, a weak side The staff of assistants is absolutely insufficient. It consists for the most part of old men who are paid only £36 a year. For this small sum they must live with their families a dull isolated life on the island. It is true that their wives get a little washing to do and that this adds to their income, but still they are so poor that it cannot be a matter of surprise if they occasionally accept bribes. When they are sent on board a ship to fetch away linen or luggage to be disinfected they may be bribed to leave certain objects behind them or, to oblige passengers who are in a hurry, they may stamp luggage before it has been disinfected so as to get it through more rapidly. Consequently it may happen that "suspects" are not watched strictly enough. When, however, it is not merely a question of suspicion but there is positive danger all the superior officers are on the spot, the underpaid attendants are carefully watched, and the precautions deemed necessary are enforced with great rigour. Even if all the attendants were properly paid difficulties would still arise in consequence of the great irregularity of the work that has to be done. Sometimes there is absolutely nothing to do, while at other times it is necessary to employ a great number of extra hands and these are very difficult to obtain.

The most notable case in point was that of the ship *Sénégal*, which gave rise to a somewhat acrimonious debate in the French Academy of Medicine. The *Revue Générale des Sciences* had organised a pleasure cruise in the Mediterranean and 174 passengers embarked at Marseilles on Sept. 14th, 1901. Their ship, the *Sénégal*, had arrived at Marseilles on August 28th, coming from Alexandria where cases of plague had been notified. According to Article 5 of the international agreement the passengers and crew were carefully examined and were all found to be in good health. The linen, bedding, luggage, &c., were disinfected. Events proved that this did not suffice, for, with all these precautions, no account was taken of the rats. Four days after the *Sénégal* had left Marseilles with its distinguished passengers on board, and after visiting Ajaccio, one of the crew fell ill with plague. The ship at once returned to Marseilles and landed its passengers at Frioul. Now the number of first-class passengers detained at Frioul during the 10 years from 1891 to 1900 only amounted in all to 119. But here, in one single day, there came 174 passengers all clamouring for first-class accommodation. An ex-Cabinet Minister, leading men of science, and other influential and distinguished persons composed this very exceptional body of travellers. The confusion, the inconvenience, and even the hardships that ensued were graphically described in various papers and by one of the victims, Dr. Bucquoy, at the Academy of Medicine. Though every effort was made to reinforce the staff it was impossible to obtain sufficient attendants. Nor were those who did volunteer for this service at all competent. To extemporise a large hotel staff is no easy matter, particularly when each person who volunteers conceives that he is incurring the risk of contracting plague. When the *Sénégal* arrived at Frioul there were but eight attendants besides the medical staff. 18 others were immediately engaged. But this was insufficient. There were not hands enough to carry the personal luggage from the disinfecting station to the dwelling-houses which are situated at a considerable distance. Many essential necessaries were wanting. On listening to these many complaints it occurred to me that the staff of a quarantine station such as that at Frioul should be recruited much on the same principle as the British army. Men should be engaged, sent to Frioul for a few months, and after having been thoroughly instructed they should be drafted into a reserve corps. A small retaining fee or pension should be paid to them on the understanding that they should hold themselves ready to resume active service for full pay whenever they were called upon. In this manner and in the course of time a competent and numerous reserve would be at the disposal of the sanitary authorities. Nevertheless, though this does not exist at present, I feel it only fair in regard to this controversy to quote the concluding passage of the speech delivered at the Academy of Medicine in reply to Dr. Bucquoy by M. Henri Monod, Councillor of State and Chief of the Sanitary Department of the Ministry of the Interior. M. Monod said: "A second fact, to which M. Bucquoy has not alluded, is worthy of the attention of the Academy. Let us turn our eyes away from the arid rock of Frioul and look towards France. We sympathise, as we are bound to do, with the annoyances endured by the very distinguished passengers of the *Sénégal*, but as no one of them suffered in health we may without hardness of heart view the question in its more general aspect. For more than five years and a half we have been threatened with the plague and this menace increases with formidable rapidity. The number of ships coming from plague-stricken countries and entering French ports amounted to 11 in 1896, to 80 in 1897, to 209 in 1898, to 368 in 1899, and to 655 in 1900. In all there were 1348 ships and of these 801 arrived at Marseilles. During these five years our sanitary services, and especially that of Marseilles, were face to face with a new and alarming peril, for the modern achievements of science are so far uncertain that they have not sufficed to efface the terrible recollections of the past. The plague seems to have established itself in Egypt. There has been plague in Portugal. There have been cases of plague in Italy, some cases in Scotland, others in England; up to the present moment there has not been a single case on French territory. This is a fact which we must bear in mind; it is without precedent; and this entitles many of our agents, but more especially Dr. Catalan (the port medical officer of Marseilles), to receive the expression of public gratitude."

But the precautions taken and thus publicly and gratefully acknowledged are now admitted to be insufficient, and this in spite of their so far successful effect. The danger is with the rats and new and important measures are now enforced to meet this risk. They will form the subject-matter of my next contribution.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

A Question of Labels.

THE distribution of medicine to out-patients at hospitals and dispensaries is a matter of routine that is generally carried out with a proper sense of responsibility. But errors will sometimes happen and a patient gets the wrong medicine or mistakes the directions given to him concerning it. The wonder is that in the circumstances mistakes are so few and that so little harm is done. It has lately been suggested that the name of each patient should be written upon the label affixed to his bottle. But this would entail an amount of labour of which the author of the suggestion probably knows nothing and the reform would not always prove successful, for bottles, names, and patients might afterwards get mixed. A patient at a local dispensary lately complained, he and his wife being recipients of medicine, that no names were placed upon the labels. The man drank the wife's medicine and the wife took that from the husband's bottle, fortunately without ill results to either. As a rule it is the plan for the patient to take his prescription to

the dispensary where it is made up and handed to him. The responsibility of remembering its appearance so as to be able to identify it thus remains with him. Bottles containing poison are always prominently labeled as such and the printed directions for dosage, &c., ought to be sufficient when the medicine is handed directly to each individual patient. It is evident that no other sort of directions can be given to hospital and dispensary patients, for time would not allow of their being written. At a certain hospital recently marking-ink was administered instead of meat-juice to two scarlet fever patients. On investigation the committee found that a bottle similar in shape to that used for meat-juice had been in use for nine months as a receptacle for marking-ink. Obviously this was a gross indiscretion and it was recognised by the committee in the proper condemnation and punishment of the offenders. But if hospital nurses can make such mistakes how much more liable to do so must out-patients at hospitals and dispensaries be.

Midland Counties Asylum.

Formerly known as the Midland Counties Idiots Asylum this institution continues its usefulness and activity. Lord Leigh presided at the thirty-fifth annual meeting of the subscribers on April 25th. The report showed that during the past year the admissions were 12 in number, the average age not being over nine years. In dealing with the feeble-minded one difficulty of the committee had always been the inability to get the patients sufficiently young. The provisions in the United Kingdom generally for the education of such children were stated by the report to be totally inadequate. The committee consider that owing to the want of proper facilities thousands of poor children are unable to receive treatment in special institutions. A shoemaker's, a tailor's, and a carpenter's shop have been fitted up at the institution and an appeal is being made for more funds, the advantages of technical training being pointed out. It is, of course, now generally recognised that the feeble-minded when taken in hand while young are capable of improvement and that many, if taken in time, may be saved from drifting into lunatic asylums or prisons.

Sanitation and Cookery.

The Birmingham Ladies' Association for Useful Work have set themselves a laudable programme. For 30 years they have been endeavouring to inculcate the principles of sanitation in the poorer parts of the city. They are now providing for the teaching of cookery in the slums. Whether this teaching will be received in the same spirit with which it is being offered remains to be seen when the experiment has been sufficiently tried. The provision of lady sanitary inspectors in different districts of the city has made the work of the society less urgent from this point of view. Yet there is still abundant room for the exercise of thrift and knowledge in the ordinary transactions of domestic life among the lowest stratum of our society.

May 20th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Mersey and Irwell Joint Committee.

DURING the last 10 years much has been done to prevent the streams in the watershed of the Mersey and the Irwell from becoming fouler. In many cases great improvement has been made but much more must take place before sea-trout and salmon frequent these rivers as of yore. In his annual report of the work done by the joint committee Mr. A. Tutton, the chief inspector, gives some facts showing the great extent of its jurisdiction, consisting as it does of seven county boroughs, 14 non-county boroughs, 61 urban district councils, and 12 rural district councils, with a total population of 2,456,723 and a rateable value of £11,986,609. On the rivers Irwell and Roach there are 285 manufactories; on the Irk, once known for its excellent trout-fishing, 46; on the Medlock, 15; and on the Mersey, 99—a total of 445. Into all these streams the manufacturers used to throw, or allowed to be washed in, their waste ashes as a matter of course, but there have been no serious cases of pollution by solid matter during the past two years, though action has been taken in several small cases. In 1892 26 urban authorities had no scheme for preventing pollution, but now all except one urban authority and two rural authorities have such a scheme. The biological filter method of treatment is being adopted more and more and is of great value where suitable land cannot be obtained, though Mr. Tutton thinks that it can never take the place of first-rate land treatment as far as efficiency is concerned. Manufacturers now generally recognise the necessity for, and the justice of, treating their trade waste, and legal proceedings have not been required for four years. The result of all this is that considerable improvement in the condition of the streams has been brought about, though much remains to be done, "more especially by the sanitary authorities." One suburb, Moss Side, practically a part of Manchester, remains outside and independent of the city and its dealing with its sewage is not satisfactory. There is a sewage farm that is often complained of, which is not remarkable seeing that its area is equal only to about one acre per 1000 of the population, but even Moss Side promises to do better.

Diphtheria at Darwen.

The recent report of Dr. S. W. Wheaton of the Local Government Board on a serious epidemic of diphtheria at Darwen is a severe indictment of the sanitary condition of the town and by implication of the town council. The general unwholesome conditions prevailing in the town are considered responsible for the extensive prevalence of sore-throat, which after its introduction facilitates the spread of diphtheria. Dr. Wheaton recommends increased isolation accommodation, thorough overhauling, and where there is insufficient fall relaying of the sewers. The town council are also recommended to endeavour to replace the pail-closets by water-closets or slop-water-closets.

Suicide in Salford.

Is suicide becoming more common? One would say yes if the state of things which was disclosed the other day at the Salford Borough Sessions were typical of the whole country. Mr. J. M. Yates, K.C., congratulated the grand jury on the light calendar. Although there were only 11 cases for trial no fewer than six were charges of attempted suicide. In two only was any cause assigned but in these it seems to have been poverty. In one case a girl, aged 15 years, had for some time assisted her mother who is a dressmaker, but work was scarce and she was told to try to get work elsewhere. Having failed to find any she tried to drown herself. She pleaded guilty and was sentenced to one day's imprisonment. The next case was that of a woman, 54 years of age, who was deserted by her husband some months ago, and had found great difficulty in providing herself with food and lodgings, so she tried to drown herself. "Her own and her sister's recognisances in 40s. were taken." A joiner, 52 years of age, had a day's imprisonment for attempting to drown himself. The cause was not stated. A woman, whose age was not given, for a similar offence was bound over to come up for judgment "if called upon." A girl, aged 18 years, was sentenced to one day's imprisonment, but in this case neither the manner nor the reason for the attempted suicide is given. The severest punishment was inflicted on a man, aged 63 years, who had tried to cut his throat. He gave himself several severe gashes with a razor which but for prompt medical aid would have proved fatal. He was sentenced to 14 days' imprisonment "in the second division." It seems difficult to discover the principle regulating the punishment for attempts at self-murder. One can understand the feeling of depression produced by unsuccessful efforts to get work, the vision of the future rendered all the more hopeless from the physical exhaustion brought on by want of food. In many cases, however, especially in young girls, mere petulance and momentary ill-temper seem to be the only assignable causes for suicide; in others, of course, disappointed love, or what passes for it, is held to be a sufficient excuse for the throwing away of life. Has our system of education any influence, and if any what influence has it on the ideas prevalent as to the sacredness of human life? It almost seems as if ill-disciplined, ill-regulated minds were in the ascendant.

May 20th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox at Swansea.

THERE have been 55 cases of small-pox in Swansea since the beginning of the epidemic in December last and until quite recently there has been experienced no difficulty in isolating the patients in the small-pox hospital. On May 12th

however, the medical officer of health (Mr. Ebenezer Davies) applied to the borough justices for an order to remove two children who had contracted the disease and who were residing in one house where there were four other persons. The entire household was said to be unvaccinated. The order was made but has not been complied with and the children's father, who is a stallholder in the public market, is to appear before the magistrates on May 22nd on a charge of obstruction. Since the order was made the mother of the children and a maid-servant have been attacked with the disease. The latter has been removed to the hospital.

The Royal Alexandra Children's Hospital, Rhyl.

Rhyl has always been a popular resort for the inhabitants of the great industrial centres of the Midland counties and of Lancashire, so that it is not at all surprising to find that the majority of patients treated in the Royal Alexandra Children's Hospital come from these counties. In 1901 they numbered 474 of the 710 patients taken into the wards. Of this total 58 were medical, 69 were surgical, and the remainder were convalescent cases. The institution was first established upon a very small scale in the year 1872, but 20 years later the demands upon its resources were so great that in 1894 it was decided to erect an entirely new building and Messrs. Alfred Waterhouse and Son prepared designs including a convalescent home to accommodate 100 patients, a central administrative block for a staff of 25 nurses and a hospital for 60 patients. The foundation stone was laid by Queen Alexandra in 1894 and the central block was formally opened by the Prince and Princess of Wales on May 12th. The hospital has been in use since 1900 and the convalescent wing is to be erected when sufficient funds are forthcoming. The hospital, which has an uninterrupted sea frontage of 266 feet, contains four wards on two floors to accommodate 15 beds in each and on two sides of each ward are balconies on to which beds can be wheeled. There are also recreation rooms, single bed wards, an accident ward and an operating theatre. The walls of the wards are lined with a glazed brick dado, above which is adamant cement and all corners are rounded and ledges avoided. The sanitary offices are at the angles of the wards with cross ventilating passages. The whole building is lighted with electric light and the passenger lift is worked by electric power. In the administrative block are sea-water baths, and a Finsen lamp and Roentgen ray apparatus have been installed. In the beautiful little chapel there is a window given by his widow in memory of the late Mr. Murray Browne, formerly Local Government Board Inspector for North Wales and who for some years was honorary treasurer and secretary to the hospital.

Death under Chloroform.

A man, 42 years of age, died at the Swansea General Hospital on May 16th while under chloroform. He was about to be operated upon for ununited fracture of the arm but the operation had not been commenced at the time of his death.

Payment for Patients treated at the Pasteur Institute in Paris.

Several persons who had been bitten by rabid dogs in Pembrokeshire have been sent for treatment to the Pasteur Institute in Paris and so far with the best results. The expenditure involved was borne provisionally by the county council and it has now been sanctioned by the Local Government Board which requires that the county council shall formally approve the expenditure after receiving medical reports of the cases particularly concerned.

Public Slaughter-house for Bristol.

The Bristol Health Committee, after having had the question under consideration for some time, has at length passed a resolution recommending that a scheme shall be brought up providing for the erection of a public slaughter-house. There are altogether in the city about 120 private slaughter-houses, but a large proportion are quite unsuitable for the purpose to which they are put.

The Medical Officer of Health of Barton Regis, Bristol.

Upon many occasions THE LANCET has insisted upon the undesirability of medical officers of health visiting cases of infectious disease notified to them and the Local Government Board has frequently expressed the same opinion in communications addressed to sanitary authorities. The Barton Regis Rural District Council having passed a resolution calling upon its medical officer of health, Dr. Edward Crossman, to make a detailed report upon every infectious case notified to him received a letter from the Board in the terms above indicated, and upon Dr. Crossman declining to fulfil the requirements of the district council, which were in direct opposition to the instructions of the Board, he has been called upon by the council to send in his resignation. It will be interesting to see whether Dr. Crossman will receive the ultimate support of the Board, though there is no doubt that he has the sympathy of his colleagues in his endeavour to uphold the traditions of his profession.

Children's Convalescent Home at Weston-super-Mare.

The convalescent home at Weston-super-Mare in connexion with the Bristol Royal Hospital for Sick Women and Children is apparently conducted upon economical lines, for during the past year 322 patients were treated in the institution at a total cost of £480, although there are only 28 beds in the home. Patients are sent to the home, not only from the Bristol hospitals, but from the public elementary schools and by the Bristol Board of Guardians.

Vaccination Expenditure.

At the meeting of the Okehampton (Devon) Board of Guardians held on May 10th it was reported that the vaccination fees for the past quarter amounted to £75, whereas under the old regulations the annual cost for vaccination was £35. Several of the guardians considered that it was very hard on the ratepayers that several prominent residents of Okehampton should be revaccinated at the expense of the rates, but it was pointed out to them that all persons were entitled to free public vaccination. The finance committee reported that one of the public vaccinators had been revaccinated by his assistant and had charged 2*s.* 6*d.* for the operation. The committee, however, was of opinion that as the assistant was not engaged by the guardians the auditor of the Local Government Board would surcharge that amount.

The Winsley Sanatorium.

At the meeting of the Bristol City Council held on May 13th it was decided to contribute a sum of £1000 towards the cost of the Winsley Sanatorium and to give an annual donation of £260 towards the maintenance of the institution, conditionally that four beds be reserved exclusively for Bristol cases.

May 19th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

General Council of the University of Edinburgh.

THE statutory half-yearly meeting of this body was held on May 7th. The only matter of medical interest was a report on the medical curriculum, in which it was pointed out that the fifth year had been added to the curriculum with a view to give the student in the end of his course more time for the clinical subjects. This expectation, the report holds, has failed entirely. At the same time the report somewhat illogically says that difficulties have arisen in connexion with the hours for systematic lectures because an additional hour, namely from 11 to 12, is wholly taken up with hospital teaching. The fact is that this extra hour of clinical instruction has been a great gain to the student and it is in virtue of the additional year that he has been able to take full advantage of it. The question of the rearrangement of class hours is dealt with and a workable time-table is added to the report. The report further suggests that the academic year should be divided into three terms of 10 or 11 weeks each and that the winter session should begin for all classes on Oct. 1st. It is also proposed that examinations shall be held three times during the year, and, save under strict regulations, no student who has failed to pass an examination shall be allowed to attend the succeeding classes of the course. The order in which students are to take out their classes ought to be prescribed. The meeting agreed to this report and ordered it to be sent to the University Court. The proposals are eminently practical and many of the professors and teachers have long held that alterations ought to be made in the directions indicated. It is to be regretted that the Court seems to be so unwilling to carry through any considerable modification of the existing order of things. It probably dislikes general council agitation, but it would be wise to carry out recommendations of this kind, for they embody the experience and the mature opinion of a large body of teachers. The question is one deeply affecting the interests of the student and there is no selfish interest involved or rival interest of extra- and intra-mural school.

Examination of Clinical Morbid Products in Edinburgh.

The latest phase of the relations between the Royal College of Physicians of Edinburgh and the Edinburgh Town Council is the circulation of a letter to medical practitioners in Edinburgh in which it is intimated that in consequence of the decision of the town council to transfer to the Usher Institute of Public Health the reporting on morbid products received by the medical officer of health from practitioners in the city the College has resolved to cease to issue reports on such products received through the medical officer of health after May 15th. As, however, it is the wish of the College to place the resources of its laboratory freely at the service of the medical profession, in the interest of the citizens, the College has instructed the superintendent of the laboratory to receive morbid products directly from practitioners in the city and to report thereon without fee. It is hardly necessary to say that there is a difference of opinion regarding this action and as to its exact significance.

The Proposed Psychiatric Clinic at the Edinburgh Royal Infirmary.

This matter is still under the anxious consideration of the board of managers, which body has applied to the members of the staff for their opinion. As I intimated some weeks ago there is still considerable diversity of opinion regarding the scheme. Of course the alienists are running a big scheme for all its worth and with an interesting and curious optimism as to the depth of the public pocket. Meanwhile the stern fact faces the managers that their annual ordinary expenditure exceeds their ordinary revenue by something like £16,000 and that for the last quarter alone it exceeds it by £10,000. Many shrewd people hold that there is a limit to public giving for any one charity, no matter how deserving it be. This view is based partly upon what happened during the time that war funds were being raised, for it was then found that many persons merely transferred their giving from one charity to another. Another factor which is to be also borne in mind is that the need of providing suitable establishments for patients suffering from tuberculous disease of the lungs is deeply impressing the public mind and will tend to divert money in that new direction.

Aberdeen University.

At a meeting of the University Court on May 13th a letter from Professor Trail was read intimating gifts by himself of two sums of £100 each, to be named the Dickie Fund and the Nicol Fund, the income of which is to be used yearly for giving prizes to students in botany and zoology, "to encourage students to acquire skill to fit them for research; to promote a fuller knowledge of the flora and fauna of Scotland; to induce students to aid in the equipment of the university for teaching and research in these sciences, and in the work of societies and institutions (especially in Aberdeen and in the north of Scotland) organised to promote a fuller recognition of the interest and value of the biological sciences in education and otherwise; to connect these objects with the names of his teachers (Professors Dickie and Nicol) in botany and zoology; and to express in a slight measure his sense of what he owed to their instruction and example."

May 20th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Royal City of Dublin Hospital.

THE "Gigas" bazaar in aid of the Royal City of Dublin Hospital was, as its name implied, an immense undertaking. After running several days it was brought to a conclusion on May 19th and notwithstanding the very unfavourable weather which prevailed it seems to have proved a financial success. On its last day it was visited by several of the captains and officers of the German squadron, including those of the flagship *Kaiser Wilhelm II.* The foreign visitors were received by the medical staff of the hospital and the members of the committee.

The Coronation Celebration in Dublin.

A large and influential meeting of the citizens of Dublin was held in the Antient Concert-room on May 10th in furtherance of the movement for celebrating the coronation in Dublin. Sir Christopher J. Nixon, President of the Royal College of Physicians of Ireland, addressed the meeting and in the course of an interesting speech suggested that the occasion might be celebrated by the establishment of some permanent monument of charity, such as an addition to the present deficient accommodation for sufferers from consumption in Dublin. Mr. Thomas Myles, President of the Royal College of Surgeons in Ireland, expressed himself in favour of the establishment of a fund for the widows and orphans of the fallen Dublin Fusiliers.

Surgeon-Captain T. J. Crean, V.C.

The annual dinner of the Royal College of Surgeons in Ireland took place on May 10th at the College buildings in Stephen's Green and was preceded by a very interesting ceremony. Immediately before the banquet the President of the College, Mr. Myles, in the presence of the Lord Lieutenant and a distinguished company, presented the diploma of the honorary Fellowship to Surgeon-Captain Crean, V.C., recently decorated by his Sovereign for personal gallantry in the field. On Dec. 18th, 1901, at Tigerskloof, he attended the wounded in the fighting line, was twice wounded, and only desisted when it was thought that the second wound was likely to prove fatal. Surgeon-Captain Crean, of the 1st Imperial Light Horse, is the fourth of those holding the diploma of the Royal College of Surgeons in Ireland who has received the much-coveted honour of the Victoria Cross. After the dinner His Excellency warmly congratulated the new honorary Fellow of the College.

Royal Medical Benevolent Fund.

At the annual meeting of the Belfast branch of this fund held on May 15th it was reported that the state of the funds was satisfactory, although 52 members of the profession in Belfast did not subscribe. Professor W. Whitla was elected President, Dr. H. L. McKisack secretary, and Dr. R. Purdon treasurer.

The Royal University of Ireland.

At a meeting of the Senate of the Royal University of Ireland held in Dublin on May 15th a report was received from the Medical Committee (at which it appears there were only three members present) recommending the names of certain candidates as "extern" examiners and, notwithstanding the recent senatorial election, three out of the four suggested were medical men living in Dublin. The Senate declined to take action on such a report and wisely decided to refer the whole matter back for further consideration. Not only was the meeting of the Medical Committee at which these recommendations were made a small one, but two out of the three members present were Dublin senators. Further, a motion, of which notice had been given by the President of Queen's College, Cork (Sir Rowland Blennerhasset, D.L.), was passed directing the attention of the Standing Committee to the inadequate representation of the various Queen's Colleges on the examination boards of the Royal University. There will never be any confidence in this question of examiners until the only examiners from Dublin in the university are those connected with University College, Stephen's Green, which is affiliated with the Royal University, and the other provincial schools in Cork, Belfast, and Galway must be fully represented. To appoint "extern" examiners from Dublin would only accentuate the present agitation. Dublin men should surely be content with examinations in Trinity College, the two Royal Colleges (Surgeons and Physicians), and the Apothecaries' Hall; but the provincial medical men who teach in the medical schools of Cork, Galway, and Belfast must be represented on the university with which their colleges are so closely connected. "Extern" examiners can be appointed, if required, from England and Scotland, and in this way the practice of other universities will be followed.

Londonderry District Lunatic Asylum.

At the meeting of the committee of management held on May 15th it was reported that during last year 581 patients had been under treatment, the daily average being 488, as compared with 475 for the previous year. At present in the asylums in Derry and Gransha and in the Derry and Limavady workhouses there are 491 patients, against 489 at the same date last year.

Queen's College, Belfast.

The chair of Physiology at Queen's College, Belfast, is now vacant owing to the resignation of Professor W. H. Thompson on his appointment as professor of the Institutes of Medicine in the School of Physic of Trinity College, Dublin, and the chair of Natural History which has been filled by Dr.

R. O. Cunningham since 1870 will be vacant at the end of the present summer session owing to his resignation, a source of deep regret to his colleagues and the large number of students whom he taught.

May 20th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Cocaine Anæsthesia.

AT the Society of Surgery on May 7th M. Chaput read an interesting communication on the indications for local cocainisation, spinal cocainisation, and general anæsthesia respectively. In his opinion local cocainisation in combination with inhalation of ethyl chloride is the best method of producing anæsthesia for small operations; it is indicated whenever possible in the case of diabetics and patients to whom the idea of general anæsthesia is alarming. It may be used in superficial laparotomy and in operations for hernia. It is contra-indicated in the case of children, excitable persons, and complicated laparotomies. Spinal cocainisation is to be recommended for operations on the lower limbs, the anus, the rectum, and the genito-urinary organs of both sexes. It is applicable to superficial laparotomies and to operations for hernia. It is indicated for operations on the thorax and for difficult laparotomies when general anæsthesia would be dangerous. General anæsthesia is the only method available for children, for excitable persons, and for complicated (supra-pelvic) operations. It is the best method when operations of moderate or considerable extent are to be performed on the supra-pelvic region in individuals whose general condition is satisfactory, but it is contra-indicated in the case of timid patients and those whose general condition is bad.

Administration of Chloroform.

At the meeting of the Academy of Medicine held on May 13th M. Laborde said that in his opinion the system followed in the administration of chloroform ought to be in accordance with the teachings of physiology. The danger at the commencement of the anæsthesia lay in the arrest of the cardio-respiratory reflex consequent on irritation of the termination of the trigeminus; to this cause was due the primary syncope which was so serious. The danger might, however, be averted by the preliminary injection of a solution of morphia or, still better, a solution of narceine. It was, for instance, a good plan to inject a cubic centimetre of a solution consisting of hydrochlorate of morphia, 10 centigrammes; sulphate of atropine, one centigramme; sulphate of sparteine, one gramme; and distilled water, 10 grammes. The morphia might be advantageously replaced by narceine which was very soluble but the dose of which must be doubled or tripled, making 20 or 30 centigrammes for the above prescription. It was also useful to paint the nasal and pharyngeal mucous membrane with cocaine. Finally, the employment of the forceps for making rhythmic traction of the tongue averted all the dangers of syncope. The forceps might even be placed in position when the administration of the chloroform was commenced, for on the least alarm a few tractions sufficed to restore respiration and circulation. M. Laborde did not attach much importance to the use of mixtures of definite strength; he thought that what he had already recommended was in most cases a sufficient safeguard in the giving of chloroform.

The Public Health Laws and Epidemics of Typhoid Fever in Country Districts.

At the same meeting of the Academy of Medicine M. Fiessinger pointed out some defects in the public health laws which, he said, could never be made effective since the mayors were placed in a position subordinate to the prefects. A prefect is an official personage and may lose his appointment if he does his duty. The intention of the public health laws was good, but a mayor who was an influential politician could render the greater part of them inoperative. In support of this view M. Fiessinger gave some details of an epidemic of typhoid fever which had been raging for eight years in a small country town. Up to the present time there had been more than 800 cases and about 80 deaths. The infection arose from the spring which supplies the town becoming polluted by infiltrations from a distance. The spring issues from the base of a hill and is fed by an underground stream which comes from a high tableland and sinks into the earth near some houses where typhoid fever is prevalent. M. Chantemesse said that he was able to confirm these statements but that the relations existing between the public health service and the authorities gave rise to difficulties which had hitherto proved insurmountable.

May 20th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Rights and Privileges of the Medical Chambers.

AT the recent meeting of the Medical Chamber of Berlin and the Province of Brandenburg the proceedings took an unexpected turn owing to some remarks made by the representative of the Government. Readers will remember[1] that the Lichterfelde Hospital is boycotted by the medical profession of the district in which it is situated, for the local practitioners will not send patients to be under the care of Professor Schweninger, the chief medical officer of this hospital. One of the incidents arising out of this was that at a recent meeting of the District Council of Teltow to which the hospital belongs the district president (Landrath) Herr von Stubenrauch, said that in boycotting the hospital the medical men were influenced solely by personal animosity to the chief medical officer and that they were acting against the interests of the patients. These utterances of an influential Government official were naturally resented and at the last meeting of the medical chamber Dr. Heyl of Schöneberg proposed a motion to the effect that the chamber regretted that Herr von Stubenrauch had made erroneous statements with regard to the medical profession, but when the matter came on for discussion Herr von Bethmann, the president of the province of Brandenburg, who was acting as the representative of the Government in the medical chamber, rose and said that the chamber was not entitled to pass a resolution of that kind. The medical chambers, he said, were bodies holding official positions subject to the authority of the State and were possessed of jurisdiction only over the medical men of the district, but by passing a resolution of that kind the chamber would have the appearance of assuming jurisdiction over the Landrath, which would be contrary to the law. If the chamber believed that it had a grievance against the Landrath the proper course for it to adopt would be to make a complaint to the president of the province—i.e., the speaker himself—the Landrath being one of his subordinates. The members present at the meeting were much astonished on hearing these statements, and after a long discussion the chamber resolved to express its thanks to Dr. Heyl and to pass to the order of the day. These proceedings have been much commented on both in the daily and in the medical press, and it is admitted that the medical chambers have completely disappointed the hopes even of those medical men who were most desirous that there should be an official representation of the profession. Some even say that if the chambers are not entitled to resist attacks on the profession it would be better to have no chambers at all, but rather to have the free associations as before, for the latter were not hampered by the Government interfering with their discussions and the interests of the profession were looked after by them better than they are by the medical chambers.

Cancer Statistics.

A collective investigation on the spread of cancer in Germany was made by a committee under the presidency of Professor von Leyden in October, 1900, and the results have now been published in the *Klinische Jahrbuch* under the auspices of the Cultus Ministerium. 25,376 circulars were sent to all the hospitals, asylums, and medical men of Germany and replies were received in answer to the majority of these communications. The published report states that at the period in question 12,153 cases of cancer were under medical care, 4439 being in men and 7714 in women, so that there were 215 cases in each million of the population. The greatest number of cancer patients were reported from Thuringia and the fewest from East Prussia. As regards the age of the patients the report states that four men and 15 women were between 15 and 30 years of age, 47 men and 151 women were between 30 and 40 years, 25 men and 587 women were between 40 and 50 years, 664 men and 865 women were between 50 and 60

[1] THE LANCET, March 8th, 1902, p. 706.

years, 912 men and 1009 women were between 60 and 70 years, and 815 men and 935 women were over 70 years of age. 70 per cent. of the male patients and 68 per cent. of the female patients suffered from cancer of the digestive organs, 31 per cent. of the women suffered from cancer of the genital organs, 25 per cent. of the women suffered from cancer of the breast, and 15 per cent. of the men and 16 per cent. of the women suffered from cancerous disease of the skin.

Venereal Diseases in Prussia.

A collective investigation of the prevalence of venereal diseases in Prussia was held in 1900 and, as already mentioned in these columns[1] the medical profession of the country was provided with blank forms on which they were requested to state the number of venereal patients treated during the month of April, classifying them according as they suffered from syphilis, soft sore, or gonorrhœa. The papers were collected by the Government Medical Department of the Cultus Ministerium, the well-known statistician, Professor Guttstadt, acting as recorder. Answers were received from 63·5 per cent. of the medical men and the returns supplied showed that there were 40,920 venereal patients, of whom 75 per cent. were men and 25 per cent. were women. To arrive at the real number of venereal cases in Prussia Dr. Blaschko rightly observes in the *Medical Reform* that 36·5 per cent. must be added to the above figures, that being the proportion of medical men who had not supplied returns. Moreover, he remarks that there may be a large number of unreported cases attended by unqualified practitioners. Dr. Blaschko accordingly estimates the total annual cases to be about 773,000, a number which he arrives at by multiplying the monthly number by 12. On this computation one out of every 22 adults must contract some form of venereal disease every year. As to the different varieties of venereal disease the report states that 54 per cent. of the cases were gonorrhœa, 6 per cent. were soft sore, and 40 per cent. were syphilis, 27·6 per cent. being fresh attacks. Cases were more frequent in the towns than in the country. Dr. Blaschko has also computed the proportion of venereal patients among the adult male population of the larger towns. The highest ratio was in Königsberg, where it was 44·4 per 1000; in Wilhelmshafen and Charlottenburg it was 36 per 1000 and in Berlin it was 32·4 per 1000. In 1899 there were 27,195 venereal patients in the hospitals, so that only one out of each 29 cases was admitted to a hospital. Dr. Blaschko states that the number of venereal patients in hospital compared with the aggregate of all the hospital patients has decreased continuously since 1877. In 1877 there were 79 venereal cases among each 6000 hospital patients, but in 1899 there were only 43 per 1600. He therefore concludes that whilst hospital accommodation for general patients has largely increased the number of beds for venereal patients is not sufficiently augmented. Quoting the words of the late Dr. Firvinico, "la prophylaxie de la syphilis c'est le traitement," he recommends the establishment of either more wards for venereal patients or of special hospitals for such cases. In the conclusion of his article he mentions that a German Society for the Repression of Venereal Disease is in course of formation.

May 19th.

[1] THE LANCET April 26th, 1900, p. 1251.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Prevention of Diphtheria.

MR. PINCHING, the Director-General of the Sanitary Department, has lately sent round a circular to the various medical practitioners of Cairo informing them that there now exists at the Hygiene Institute of the Government a gratuitous system for examining swabs from patients' throats believed to be diphtheritic. The necessary test-tubes containing a mounted plug of sterilised cotton-wool are kept by the 18 chief druggists of the town and also at the various sanitary offices of Cairo. Attached to each tube are instructions for its use and the practitioner is invited to give the necessary details about the patient. The Hygiene Institute in return informs the practitioner as quickly as possible of the result of the bacteriological examination. Arrangements similar to this exist in some parts of Germany and the United States but not yet, I believe, in England. The Sanitary Department hopes that by this means it will be able to hear earlier of doubtful cases and it can insure a thorough bacteriological investigation which cannot always be carried out by practitioners in the town working in an ill-equipped laboratory. During the last 12 months there have been over 300 cases of diphtheria in Cairo, mostly in the poorer native quarters where there was a small epidemic between October and December last year. Another up-to-date arrangement works well by which the German sanitary inspector of Cairo offers to inject gratuitously as a preventive measure the children who have been in the house with a case certified as diphtheria. He tells me that he has already injected 300 of these "contacts" and not a single case of diphtheria has occurred among them. In not only diphtheria but in every case of infectious disease the Sanitary Department now gratuitously disinfects the rooms and their contents of any infected private house or hotel.

Measures against Plague.

There have of late been no new cases of plague but energetic work has to be continued in many different places. The small staff of English workers is getting gradually knocked up in consequence of much travelling, some anxiety, and the constant effort to galvanise native assistants into doing conscientious work when not under the immediate eye of the inspector. The Government has therefore sanctioned the appointment of two new English medical men as assistant inspectors. It is unfortunate that both plague and cholera are apt to occur in an epidemic form during the hot summer months and this makes it almost impossible for the chief inspectors to take leave at the very time when it is most required. Several of the staff are now in need of a long-deferred European holiday.

Veterinary Report for 1900.

37 cases of glanders and farcy were reported in Alexandria and Cairo but none occurred amongst the Government animals. Mallein is now used in every outbreak and all animals seized by the police are tested before admission to the infirmaries of the Society for the Prevention of Cruelty to Animals. 19 cases of rabies were found in dogs, besides one in a cat, and 10 human beings suffered from hydrophobia. The cases came from five provinces, besides those in Cairo and Alexandria. Both rabies in animals and hydrophobia in human beings have increased during the last three years and much more energetic measures must be taken if hydrophobia is to be stamped out. It is a disgrace to the English occupation that outcast pariah dogs should still be running about in the streets of Cairo and other big towns. They serve no useful purpose and they are a distinct danger to the community. The police periodically poison some scores of them, but every one of them should be energetically destroyed. In the provinces this will take many years to accomplish, but there is no reason why it should not at once be done in Cairo and Alexandria. Outside some of the country villages children are sometimes bitten by rabid wolves. Two years ago, in fact, a boy died from hydrophobia in one of the suburbs of Cairo after being bitten by a rabid wolf who actually attacked him while working in his master's kitchen. The number of cases treated at the anti-rabies institute in Cairo has risen from 88 persons in 1899 to 140 in 1900 and over 180 in 1901. About 200 cases of sheep-pox were reported in Egypt during the year, besides 58 outbreaks of the foot and mouth disease, while 55 cases of anthrax occurred in Alexandria amongst Syrian animals. In the Cairo slaughter-house tubercle was detected in 3 per cent. of the camels, 5 per cent. of the cows, 3 per cent. of the bullocks, and 2 per cent. of the buffaloes, while in Alexandria the disease was found in 8 per cent. of the milch buffaloes, 3 per cent. of the Egyptian cattle, and 1 per cent. in imported cattle. The owners of Cairo dairies are quite willing to have their animals tested with tuberculin and in three dairies the tests all proved negative, but in two others 8 per cent. and 10 per cent. of the cows gave a positive reaction. One of the Cairo dairies has just been unfortunate enough to have a case of typhoid fever among the European staff, but the patient was at once removed from the dairy to a hospital and the strictest sanitary investigation has acquitted the dairy premises and water-supply of all blame. Public slaughter-houses have now been provided in 31 towns and the annual number of animals killed has gradually gone up from 387,000 in 1893 to 498,000 in 1900.

Vaccine Institute.

This institute has now overcome all its early difficulties and produced during the year lymph sufficient for 578,000

vaccinations, over 200,000 of these having been called for in the month of April. The yield of vaccine from buffalo calves is found to vary from 15,000 to 25,000 vaccinations per calf, after being mixed with two parts of glycerine and two parts of distilled water. This mixture, adopted on the recommendation of the London Institute, has been found to answer better in Egypt than the lanoline mixture used in India.

Cairo, May 11th.

Medical News.

CONJOINT BOARD OF EXAMINERS IN PUBLIC HEALTH OF THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND THE FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the recent meetings of this Board held in Glasgow the following medical practitioners, having passed the necessary examinations, were admitted Diplomates in Public Health:—

Peter Aitken, Bo'ness; Gilbert Edward Brooke, London; Walter F. Brown, Sheffield; Duncan Fletcher, Harris; James Livingston Loudon, Hamilton; Neil Maevicar, Peebles; William Russell, Paisley; Alexander Watt, Falkirk; and Frank Mayes Willcox, Edinburgh.

UNIVERSITY OF CAMBRIDGE.—Grants from the Balfour Fund have been made to Mr. C. Crossland and Mr. J. S. Budgett to enable them to pursue zoological researches in Africa. Mr. A. Sedgwick, F.R.S., has been appointed a manager of the fund. Mr. A. E. Shipley has been appointed a representative of the University on the council of the Marine Biological Association. The Special Board for Medicine has added the University of Adelaide to the list of recognised colonial schools of Medicine. The new Professor of Arabic is Mr. Edward Granville Browne, M.A., M.B. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., Fellow of Pembroke College and late University Lecturer in Persian. He was a student of St. Bartholomew's Hospital. He has published numerous works on Persian travel, religion, and life. The Thurston Triennial Prize of about £54 will be awarded this year at Caius College for the best original investigations published by a member of the College during the last three years on physiology, pathology, or practical medicine. Particulars may be obtained on application to the Master.

CORONATION BALL AND FÊTE AT THE CRYSTAL PALACE.—On July 2nd, at the Crystal Palace, a Coronation ball will be held in aid of King Edward's Hospital Fund. The ball is under the patronage of His Majesty. 2000 square feet of parquet flooring will be laid in the central transept and four large drawing-rooms will be furnished in the south transept. On either side of the drawing-rooms the gardener will construct an English and an Italian garden, the latter with statues and a fountain. Tickets at one guinea each will include special trains from Victoria, supper, ball, and variety entertainment.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—A meeting of the members of the Darwen Medical Society was held on April 1st for the purpose of presenting to Mr. Edgar Alfred Field, M.R.C.S. Eng., L.R.C.P. Lond., one of the members, an illuminated address signed by all the members, together with a midwifery bag fitted with the necessary instruments, on the occasion of his leaving Darwen. Dr. J. T. Ballantyne, deputy mayor of Darwen, in making the presentation, said that the members took that opportunity to express their appreciation of Mr. Field as a fellow practitioner and the high esteem in which he was held by all of them and trusted that every success would fall to him in his new sphere of labour.—On March 25th the members of the Ladies' Class of the St. John Ambulance Association at Coventry presented Mr. Milner M. Moore, M.D. Durh., L.R.C.P. Lond., M.R.C.S. Eng., with a suit case as a mark of their appreciation of his services as honorary instructor.—Mr. J. G. Glasgow, M.R.C.S. Eng., L.R.C.P. Lond., senior assistant medical officer of the Milton Asylum, Portsmouth, has been presented by the members of the Portsmouth Association Cricket Club, of which club he is captain, with an embossed cigarette case. Mr. Glasgow is resigning his appointment at the asylum.—At Padstow (Cornwall), on May 1st, the members of the ladies' branch of the St. John Ambulance Association presented Mr. R. Palk Griffin, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., with a standard lamp, suitably inscribed, in appreciation of his services as honorary lecturer.—Mr. Bartholomew Gidley Derry, L.R.C.P. Lond., M.R.C.S. Eng., has been presented with a carved oak smoking companion by members of the Bodmin Fire Brigade, in appreciation of his services as honorary lecturer to the ambulance class.

AN UNQUALIFIED DENTIST.—At the Cardiff Police-court on May 16th a man who described himself as a chemist and a "merciful tooth extractor" was fined by the stipendiary magistrate £20 for using a description implying that he was a person specially qualified to practise dentistry. The prosecution was initiated by the South Wales and Monmouthshire Dental Association.

LITERARY INTELLIGENCE.—Mr. F. D. How, author of "The Life of Archbishop Plunket," "The Life of Bishop Walsham How," and other well-known books, has written, and Messrs. Isbister and Co., Limited, 15, Tavistock-street, London, W.C., are just publishing, a memoir of the late Mr. William Smyth, L.R.C.S. Irel., whose noble self-sacrifice, even to the laying down of his life, in the cause of duty whilst fighting an outbreak of typhus fever on the poverty-stricken island of Arranmore so thrilled the hearts of men when it was made public in the autumn of last year.

THE ROYAL INSTITUTION.—The Nebular Theory formed the subject of the Friday evening discourse delivered by Sir Robert Ball at the Royal Institution on May 16th. He said that the laws governing systems of bodies in motion made it infinitely probable that nebulæ had a tendency to become flattened towards a plane in which their constituent parts described approximately circular paths, all in one direction but with a greater velocity at the centre than at the circumference. Spiral nebulæ were discovered by Lord Rosse. Photography had shown that they were vastly more numerous than was formerly supposed and it was now believed that there were thousands of them which could be photographed though they were invisible in any telescope. Only a few nebulæ were so placed that their spirals were seen from the earth in front view or plan; the well-known one in Andromeda was the best example and a splendid photograph of it was thrown on the screen, as well as many other photographs of nebulæ, most of which had been taken at the Yerkes and Lick observatories in America. Actual motion of a nebula had not been observed until towards the end of 1901, when successive photographs of the new star which appeared in Perseus in February of that year showed that a nebula in that region of the heavens was moving with wonderful velocity.

LONDON HOSPITAL.—The new operating department of the London Hospital has just been completed (with the exception of the eastern end which is in course of erection) and was opened by the Lord Mayor on May 22nd. It is situated on the third floor of the old front block of the hospital on the site formed by demolishing the old attics, together with the previously existing operating and clinical theatres. The new department consists of a theatre, four operating-rooms, and three anæsthetising-rooms, all facing north, with large windows and top lights. In addition there are four recovery-rooms or small wards, five operation wards, instrument- and sterilising-rooms, and nine or ten rooms for the use of the surgeons, nurses, and others. The operating theatre has a marble gallery for students fitted with teak sides and gun-metal rails. The floors of the theatre, the operating-rooms, the anæsthetising-rooms, and the central corridors are in marble mosaic and the walls and ceilings are lined with opalite. All angles are rounded. The doors are polished oak with swing hinges. Hot water is supplied from an apparatus in the basement and is all boiled. Each day's cold water supply has been previously boiled. In the sterilising room there is a Manlove and Alliott's steam disinfector for dressings, coats, &c. The air to supply the theatre, operating-rooms, and anæsthetising rooms is led from the garden by means of a glazed tunnel and is driven by an electric fan through a canvas water screen and cotton-wool filters, after which it is warmed by steam coils. The vitiated air is drawn out of the rooms by electric fans in the gables of the roofs. The total length of the new buildings, as shown on a plan, is 270 feet, and the average width is about 60 feet. The whole of the department is lighted by electricity. The buildings and fittings have been executed in accordance with the designs and under the

superintendence of Mr. Rowland Plumbe, F.R.I.B.A., the architect to the hospital. The funds have been provided by the generosity of a donor who stipulated that the department should be open to all denominations and that his name should be kept secret.

DEATH OF A CENTENARIAN.—The death occurred at Devizes on May 12th of Richard Giddings who attained the hundredth anniversary of his birthday in August last.

CROWNHILL CONVALESCENT HOME.—The annual meeting of the subscribers of the Crownhill Convalescent Home, near Plymouth, was held on April 18th. The medical report stated that 278 patients had been admitted during 1901, an increase of 38 compared with the previous year. The financial statement showed that the receipts amounted to £454 and there remained an unfavourable balance of £30. Dr. C. A. Hingston announced that the late Mrs. Fowler of Plympton had bequeathed him £1000 to be used as he thought best for the home and he proposed to admit about 30 additional cases every year.

PREVENTION OF TUBERCULOSIS.—An influentially-attended meeting was held at Dorchester on May 6th to consider the proposal that Dorset should join with Devon and Cornwall in the establishment near South Brent, Devon, of a sanatorium for the treatment of consumption. The Earl of Ilchester presided, supported by Lord Portman, Lord Stalbridge, the Earl of Shaftesbury, Sir Henry Peto, and Dr. W. Lush. Considerable opposition was shown to the scheme largely on the ground that the sanatorium is not in Dorset. Eventually the report of the committee, which was in favour of joining with Devon and Cornwall, was referred to it for further consideration. The chairman stated that attention will now be given to the question of providing a sanatorium in Dorset.

DONATIONS AND BEQUESTS.—By the will of Mr. Henry Tate £2000 are bequeathed to the Hahnemann Hospital and Homœopathic Dispensary, and £1000 each to the Liverpool Royal Infirmary, the Liverpool Northern Hospital, and the Woolton Convalescent Institution, and £500 to the Liverpool Ladies' Charity and Lying-in Hospital.—Under the will of Mrs. Eleanor Thorp of Cheltenham £1000 are bequeathed to the Leeds General Infirmary, £4000 to the Cheltenham General Hospital, and £2000 to the rector of Cheltenham upon trust for the sick and needy parishioners of St. Mary and St. Matthew.—The late Mrs. Nathaniel Montefiore has bequeathed £2000 to University College Hospital and £200 to the Chelsea Hospital for Children.—£2000 have been left to the Croydon General Hospital under the will of Miss J. Keen of Croydon.—Sir Reginald Beauchamp has presented £1000 to the Board of Management of the Norfolk and Norwich Hospital for the purpose of endowing a bed in memory of his parents.—By the will of Lord Rookwood, under certain conditions £1200 are bequeathed to the trustees of the cottage hospital at Hatfield Broad Oak for the general purposes of the hospital.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—The twenty-sixth annual meeting of this association was held at the rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, London, W., on May 20th. There was a reception with refreshments and opportunity for the inspection of microscopic specimens, lantern-slides, photographs, and diagrams lent by the President, Mr. W. McAdam Eccles, Mr. Pernet, and Dr. Kelynack. Professor G. Sims Woodhead took the chair at the meeting which followed. The annual report was read by the honorary secretary, Dr. J. J. Ridge, in which it was stated that there were at present 520 members and 438 student associates. Meetings of medical students had been held at the London, Guy's, and St. Thomas's hospitals and the *Medical Temperance Review* had been widely circulated. An international medical manifesto condemning the use of alcoholic beverages on physiological grounds had been prepared in conjunction with the American Medical Temperance Association and the Association of German-speaking Abstaining Physicians. This was being extensively signed at home and abroad. The funds of the association were low and there would have been a deficit but for an opportune legacy of £250. An interesting and valuable address was then given by Mr. Eccles on Cirrhosis of the Liver and its Causation by Alcohol and Otherwise, illustrated by lantern views. A discussion ensued in which Dr. R. Paramore, Mr. A. R. Olsen, Dr. T. Morton, Dr. Heywood Smith, Mr. T. Rushbrooke, and Dr. Ridge took part, and a vote of thanks was unanimously accorded to the reader of the paper.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Hospital Contributions by Local Authorities.

A BILL has been introduced in the House of Commons by Mr. Walter Long, President of the Local Government Board, to empower county councils and other local authorities to make contributions to hospitals.

HOUSE OF COMMONS.

WEDNESDAY, MAY 14TH.

Hospital Provision at Lucknow.

Mr. WEIR asked the Secretary of State for India, in view of the fact that the hospital for the native troops at Lucknow was unprovided with a ward or room of any kind for serious ophthalmic or other cases of a special character, whether he would take such steps as might be necessary to ensure the provision of suitable accommodation for such cases.—Lord GEORGE HAMILTON replied: I have no special information as to the details of the accommodation provided at this hospital, but I am confident that the matter may safely be left to the discretion of the Government of India, who, aided by their professional advisers, are always anxious to make the best arrangements that are practicable for the treatment of soldiers who are on the sick list or in hospital.

Death Certification in Scotland.

Mr. WEIR asked the Lord Advocate if he would state the number of interments which took place in each of the six crofting counties last year without the production of a medical certificate of death.—The LORD ADVOCATE replied: On April 26th, 1901, in reply to a similar question, I pointed out to the honourable Member that a medical certificate of death is not a necessary condition of burial in any part of Scotland. There is no information in the Registrar's office as to the number of interments without the production of a medical certificate.

THURSDAY, MAY 15TH.

Sanitary Condition of the House of Commons.

This subject was raised again on the vote in Committee of Supply for the Houses of Parliament Buildings. Members complained of the conditions of the atmosphere when the House was sitting, of uncomfortable draughts, and of inefficient ventilation, and one gentleman suggested that the air introduced into the chamber should be drawn, not from the level of the river, but if it were possible from the summit of the clock tower. Complaint was also made of the unsatisfactory kitchen accommodation.—Mr. AKERS-DOUGLAS, First Commissioner of Works, undertook to inquire into the various points raised and gave the assurance that the Ventilation Committee is making satisfactory progress with its work.

Enteric Fever at St. Helena.

Mr. LAURENCE HARDY asked the Secretary of State for War whether he was aware that the garrison of St. Helena was suffering from an epidemic of enteric fever which had been caused by a failure of the water-supply and by deficiency in the supply of milk and other necessaries; whether he could give the statistics as to the cases of enteric fever amongst the British troops in the island; and whether he would take immediate steps to secure that a good water-supply and milk and other necessaries should be provided.—Mr. BRODRICK replied: There were 98 cases of enteric fever among the garrison at St. Helena on May 9th. No report has reached me o: failure of the water-supply or deficiency in the milk-supply or other necessaries. Supplies of tinned milk and medical comforts have always been available there and every possible precaution is being taken.

Parochial Medical Officers in the Crofting Counties.

Mr. WEIR asked the Lord Advocate if the Secretary for Scotland would grant a return showing the names of the parishes in each of the six crofting counties in which the parochial medical officer had been dismissed by the parish council within the last seven years; the return to distinguish cases where a cause for dismissal was assigned from cases where no such cause was assigned.—The LORD ADVOCATE replied that the Secretary for Scotland would be prepared to grant the proposed return.

Medical Examination of Travellers at Calcutta.

Mr. WEIR asked the Secretary of State for India, in view of the fact that the shed in which passengers leaving Calcutta by outward-bound steamers assemble for medical examination had been out of repair for several months prior to Jan. 8th last, and that passengers had to await the arrival of the medical officer for examination in the open street, whether he would ascertain if the shed had been put in repair yet? and whether he would consider the expediency of taking such steps as might be necessary to require the punctual attendance of the medical officer, especially in connexion with the morning sailings?—Lord GEORGE HAMILTON replied: I have no knowledge of the allegations made by the honourable Member. I will bring them to the notice of the proper authority in India.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ADAMS, W. D., M.B., M.S. Edin., has been appointed District Medical Officer for the parishes of Banham, Eccles, Kenninghall, Quidenham, and Wilby, and also Vaccinator for these parishes.

BOTHWELL, G. GRANVILLE, M.B., C.M. Aberd., late Senior Resident Surgeon, Memorial Hospital, Bulawayo, has been appointed Resident Surgeon to the Bonsor Gold Mining Company, Selukwe, Rhodesia, South Africa.

BRAND, W. H. EDEN, L.R.C.S. & L.R.C.P. Edin, has been appointed House Surgeon to the Northern Infirmary, Inverness.

BROWNLEE, ALEX., L.R.C.P. & S. Edin., L.D.S. Edin., has been appointed Assistant House Physician to the Infirmary, Cardiff.

CLAYTON-GREENE, W. H., B.A., M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Surgical Registrar to St. Mary's Hospital.

DEGRUCHY, C. W., M.R.C.S., L.R.C.P. Lond., has been re-appointed Medical Officer of Health to the Caerleon Urban District Council.

HARRIS, JOHN HENRY, M.D. Durh., M.R.C.S., L.S.A., D.P.H. Cantab., has been appointed Medical Officer of Health for the Dartmouth Port Sanitary Authority.

HEFFERNAN, P., L.R.C.P., L.R.C.S. Edin., L.F.P.S.G., has been appointed Assistant Medical Officer to the Clonmel Asylum.

HEWITSON, WILLIAM ANDREW, M.R.C.S. Eng., L.R.C.P. Edin., has been appointed Medical Officer to the Workhouse, District Medical Officer, and Public Vaccinator by the Easington Board of Guardians, also Medical Officer to the Infectious Diseases Hospital, Thorpe, near Easington, by the Rural District Council of Easington, vice Donald Wingate, deceased.

HOWARD, WILFRID, L.R.C.P. Edin., M.R.C.S., has been appointed District Medical Officer for the parishes of New and Old Buckenham, and also Public Vaccinator for the same parishes.

HYDE, EDWIN, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Surgeon to the Infirmary, Cardiff.

THOMSON, W. ERNEST, M.A., M.D., has been appointed a Surgeon to the Glasgow Eye Infirmary.

THYNE, WILLIAM, M.A., M.D. Edin., has been appointed Medical Superintendent to the Isolation Hospital for the Barnet Urban District.

WORRALL, E. S., M.R.C.S., L.R.C.P. Lond., has been appointed in charge of the Radiographic Department, University College Hospital, London.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM HOSPITAL.—Two Resident House Physicians for six months, with apartments, board, &c. Honorarium at rate of £25 per quarter.

BIRMINGHAM GENERAL DISPENSARY.—Three Resident Locums to take holiday duty. Terms four guineas per week, with furnished apartments.

BRADFORD ROYAL INFIRMARY.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and residence.

CANCER HOSPITAL (FREE), Fulham-road, S.W.—Junior House Surgeon for six months. Salary at rate of £70 per annum, with board and residence.

CANTERBURY CITY AND COUNTY BOROUGH ASYLUM.—Medical Superintendent. Salary £350 per annum, with house, lighting, washing, and produce of garden.

CARDIFF UNION WORKHOUSE.—Assistant Medical Officer, unmarried. Salary £130 per annum, with rations, apartments, attendance, and washing.

CHESHIRE COUNTY ASYLUM, Macclesfield.—Temporary Assistant Medical Officer. Salary £4 4s. per week.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Two House Physicians for six months, with board, washing, and residence provided; and salary at rate of £30 per annum.

COLOMBO, CEYLON, MUNICIPALITY OF.—Medical Officer of Health. Salary equivalent to £400, rising to £500, and conveyance allowance.

CORNWALL ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100, increasing £10 a year, with board and apartments.

DUDLEY GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

DURHAM COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £150, rising to £180 a year, with apartments, board, laundry, and attendance.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Physician for six months. Board, residence, and honorarium of £25.

GRAVESEND HOSPITAL.—House Surgeon. Salary £90 per annum, with board and residence.

HEREFORD COUNTY AND CITY ASYLUM.—Senior Assistant Medical Officer. Also Junior Assistant Medical Officer. Salary £150 and £100 per annum respectively, with board, lodging, and washing.

HOLLOWAY AND NORTH ISLINGTON DISPENSARY.—Honorary Medical Officer.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £20, with board and residence. Also Clinical Pathologist and Bacteriologist. Honorarium 50 guineas.

HOSPITAL FOR WOMEN, Soho-square, W.—Honorary Assistant Anæsthetist. Also House Physician for six months. Salary £30.

HULME DISPENSARY, Manchester.—Honorary Physician.

INDIAN MEDICAL SERVICE, India Office, S.W.—Nineteen appointments in Indian Medical Service.

KENT AND CANTERBURY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 a year, with board and lodging.

KENT COUNTY ASYLUM, Barming Heath, Maidstone.—Fourth Assistant Medical Officer and Pathologist, unmarried. Salary £175 per annum, rising to £200, with quarters, attendance, &c.

LANCASHIRE COUNTY ASYLUM, Winwick, Warrington.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with apartments, board, attendance, and washing.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House Surgeon for six months. Salary £25, with board and lodging.

LONDON TEMPERANCE HOSPITAL, N.W.—Assistant Resident Medical Officer for six months. Honorarium at rate of 50 guineas per annum, with board and residence.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Non-resident House Surgeon. Honorarium at rate of £25 per annum.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN, Hunter-street, Brunswick-square, W.C.—Lecturer on Forensic Medicine; Lecturer on Toxicology; and Curator of School Museum.

NORFOLK AND NORWICH HOSPITAL.—Second Assistant House Surgeon for six months, with board, lodging, and washing. Honorarium £20.

NORTHAMPTON GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, attendance, and washing.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Second Honorary Anæsthetist. Also Resident Medical Officer. Also Assistant Resident Medical Officer, both for six months. Salary at rate of £50 per annum each, with board, residence, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £160 per annum, with apartments, attendance, light, and fuel.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

RICHMOND UNION, Surrey.—Medical Officer and Public Vaccinator. Salary £100 per annum, and fees.

ROYAL ALBERT HOSPITAL, Devonport.—Resident Medical Officer, unmarried. Salary £110 per annum, with board and lodging.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, S.E.—Resident Medical Officer; also Assistant Obstetric Physician.

ROYAL PIMLICO DISPENSARY, 104, Buckingham Palace-road.—Attending Medical Officer.

ST. MARY'S HOSPITAL FOR SICK CHILDEN, Plaistow, E.—Resident Medical Officer. Salary £100 per annum. Also Assistant Resident Medical Officer. Salary £60 per annum. Both with board, residence, and laundry.

SCHOOL BOARD FOR LONDON.—Assistant Medical Officer. Salary £250 per annum.

SOCIETY OF APOTHECARIES OF LONDON.—Examiner in Medicine. Also Examiner in Midwifery.

SOMERSET AND BATH ASYLUM, Cotford, Taunton.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, and washing.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

SWANSEA GENERAL AND EYE HOSPITAL.—Resident Medical Officer. Salary £75, with board, apartments, washing, and attendance.

THROAT HOSPITAL, Golden-square, W.—Junior House Surgeon. Salary £100 per annum, with lunch.

TORBAY HOSPITAL, Torquay.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W.—House Surgeon for six months. Honorarium of £25, with board and lodging.

WEST LONDON HOSPITAL, Hammersmith, W.—House Physician. Also House Surgeon, both tenable for six months. Board and lodging provided.

WHITTINGHAM COUNTY ASYLUM, Lancashire.—Junior Assistant Medical Officer, unmarried. Salary £150, with apartments, board, washing, and attendance.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Physician, also House Surgeon. Salary (in each case) £100 per annum, with board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeon, under the Factory Acts, at Banbury in the county of Oxford, at Bingley in the West Riding of the county of York, and at Cheadle in the county of Stafford.

Births, Marriages, and Deaths.

BIRTHS.

ARCHDALL.—On May 4th, the wife of Mervyn T. Archdall, L.R.C.P., L.R.C.S. Edin., Croxley, Herts, of a son.

BARON.—On May 12th, at the High House, Orford, Suffolk, the wife of H. N. Baron, M.R.C.S., L.R.C.P. Lond., of a son.

GOADBY.—On May 16th, at the Mall, Wanstead, the wife of Kenneth W. Goadby, D.P.H. Camb., L.D.S. Eng., of a son.

POLLARD.—On April 26th, at Craigton, St. Andrews, Jamaica, the wife of Deputy Inspector-General E. R. H. Pollard, Royal Navy, of a daughter.

MARRIAGES.

GROSSMANN—MEYER.—On May 14th, at St. Luke's Church, Liverpool, Karl Grossmann, M.D. Freiburg, F.R.C.S.E., to Clare Beatrice, eldest daughter of the late Moritz Meyer.

LAST—JARVIS.—On May 10th, at St. Luke's Church, Nightingale-lane, Cecil Edward Last, M.R.C.S., L.R.C.P. Lond., to Grace Bevington, sixth daughter of the late John Stephen Jarvis.

DEATHS.

BERKELEY.—On May 14th, at Dilkhusha, Fleet, Hants, suddenly, Richard William Berkeley, Brigade-Surgeon, A.M.S., retired, second son of the late Rev. M. J. Berkeley, F.R.S., of Sibbertoft, Northants.

ORD.—On May 14th, at the residence of his son, The Hall, Salisbury, William Miller Ord, M.D., F.R.C.P., aged 67.

PITT.—On May 17th, at Wellesbourne, Richard Pitt, M.R.C.S., L.S.A., in his 85th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE CASE OF DR. W. T. LAW.

We are informed that the President of the Royal College of Physicians of London, the President of the Royal College of Surgeons of England, and the Master of the Apothecaries' Society of London have agreed to act with Dr. R. Paramore as trustees of the fund now being raised to meet the expenses incurred by Dr. W. T. Law. Subscriptions are earnestly invited by them to this fund, and should be addressed to Dr. Paramore, 2, Gordon-square, London, W.C. Cheques and postal orders should be made payable to the "Law Fund," and should be crossed "London and County Bank, Holborn." The following subscriptions have been already received:—

	£	s.	d.
Dr. Theodore Williams...	50	0	0
Dr. R. A. Gibbons	20	0	0
A Friend	20	0	0
Dr. C. J. Cullingworth...	5	5	0
Dr. Radcliffe Crocker ...	1	1	0
Mr. Howard Barrett ...	0	10	6
Dr. Hingston Fox	0	10	6
Dr. M. Baines, V.D. ...	1	1	0
Dr. Edwin Hollings ...	2	2	0
Dr. Wharton P. Hood ...	10	10	0
J. A.	1	0	0
Dr. Holland J. Cotton ...	3	3	0
Sir Lauder Brunton ...	2	2	0
Dr. William Ewart ...	2	2	0
Mr. Henry Juler	2	2	0
F. A. E. S.	0	10	6
Mr. J. J. O'Donnell ...	0	10	6
Dr. J. H. Garrett	1	1	0
Dr. F. H. Parsons	1	1	0
Dr. G. Danford Thomas	2	2	0
Dr. James Edmunds ...	1	1	0
Dr. E. Symes Thompson	2	2	0
Mr. Alban Doran	2	2	0
Mr. W. H. Jalland... ...	1	1	0
Dr. M. Prickett	1	1	0
Dr. A. R. Barnes	0	10	6
Dr. P. H. Pye-Smith, F.R.S.	2	2	0
Mr. H. G. Howse	3	3	0
Dr. W. B. Thorne	1	1	0
Dr. E. G. Younger... ...	1	1	0
Dr. W. S. A. Griffith ...	2	2	0
Mr. S. Wreford	1	1	0
Mr. J. Marshall	0	5	0
Dr. S. Woodcock	1	1	0
Dr. Stanley Smith ...	1	1	0
Dr. H. A. Ledlard	1	1	0
Mr. W. Berry, J.P. ...	1	1	0
Dr. A. B. Duffin	2	2	0
Dr. W. A. Bond	0	10	6
Dr. Clement Godson ...	1	1	0
Mr. H. E. Watts	0	10	6
Mr. M. J. Anderson ...	0	10	6
Mr. C. J. Ogle...	1	1	0
Dr. R. R. Alexander ...	1	1	0
Mr. A. Cummings Air ...	1	1	0
Sir Henry Thompson, Bart.	10	10	0
Mr. H. B. Collins	0	5	0
Dr. David Bower	1	1	0
Dr. H. C. Buxton	1	1	0
Mr. R. S. Armstrong ...	1	1	0
Mr. Faithfull	2	2	0
Dr. George Eastes	1	1	0
Mr. A. Allport...	0	10	6
Dr. W. H. Strange	0	10	6
Dr. Percy Jakins	1	1	0
Dr. B. Bloomfield Connolly, C.B.	0	10	6
Dr. Herbert Tilley... ...	1	1	0
Dr. W. Domett Stone ...	1	1	0
Mr. H. C. Mends Gibson	2	2	0
Dr. D. Ferrier, F.R.S. ...	1	1	0
Dr. Frederick Roberts ...	1	1	0
Dr. H. J. Capon	1	1	0
Mr. A. Carless	1	1	0
Professor A. R. Simpson, F.R.S. Edin...	2	2	0
Mr. G. Abbott...	0	5	0
Professor John Chiene, F.R.S. Edin....	2	2	0
Mr. W. Allingham ...	2	2	0
Sir Anderson Critchett	2	2	0
Dr. J. Blumfeld	0	10	0
Dr. J. J. M Dunbar ...	1	1	0
W. B.	1	1	0
Mr. John Langton ...	2	2	0
Mr. J. J. Ayre	1	1	0
Mr. F. Argles	1	1	0
Dr. A. E. Bridger	2	2	0
Dr. S. J. Allden	1	1	0
Dr. R. Baines...	0	5	0
Dr. J. Ford Anderson ...	1	1	0
Mr. B. J. Acheson	0	10	6
Mr. James Arthur	0	10	0
Dr. B. Addy	0	10	0
Mr. E. Owen	1	1	0
Mr. W. Bruce Clarke ...	2	2	0
Dr. W. R. Awdry	0	10	0
Dr. Lewis Lewis	0	5	0
Sir G. Plunkett O'Farrell	1	1	0
Dr. G. A. Mason	1	1	0
Dr. W. S. Wyman	1	1	0
Dr. Heywood Smith ...	1	1	0
Mr. W. J. Walsham ...	2	2	0
Dr. R. Beattie	1	1	0
Dr. Thomas Stevenson, F.R.S.	1	1	0
Sir Felix Semon	2	2	0
Dr. H. Sauer	5	0	0
Dr. R. Liveing	1	1	0
Dr. Hughlings Jackson, F.R.S.	1	1	0
Sir Thomas Smith, Bart.	3	3	0
Dr. A. H. W. Clemow ...	1	1	0
Mr. N. P. Blaker	1	0	0
Dr. C. Gould May	1	1	0
Mr. C. T. Dent	1	1	0
T. B.	2	2	0
Sir Dyce Duckworth, LL.D.	1	1	0
Dr. S. J. Gee	2	2	0
Mr. J. Tweedy	3	3	0
Mr. A. L. McKenzie ...	1	1	0
Dr. G. Vivian Poore ...	2	2	0
Dr. W. Benthall	1	1	0
Mr. Christopher Heath	1	1	0
Mr. H. T. Butlin, D.C.L.	2	2	0
Dr. J. Walton Browne...	1	1	0
Dr. A. R. H. Bland ...	1	1	0
Dr. J. Brisbane	1	1	0
Mr. E. U. Berry	2	2	0
Mr. M. C. Corner, J.P.,	0	10	6
Mr. J. Kennedy	1	1	0
Dr. W. Hugh Fenton ...	1	1	0
Dr. C. Renner	1	1	0
Dr. R. R. Giddings ...	0	10	6
Mr. J. Deane	1	1	0
Sir George A. Pilkington	3	3	0
Dr. J. N. Gardiner	0	10	6
Mr. Victor Horsley, F.R.S.	5	5	0
Sir William S. Church, Bart.	2	2	0
Mr. E. H. Crisp	0	10	6
Mr. G. Hoseasauer ...	0	7	6
Mr. G. W. New	1	1	0
Mr. H. A. Lane	1	0	0
Mr. C. S. Saunders... ...	0	10	6
Mr. W. H. Pywell	0	10	6
Mr. E. J. Macgrath ...	1	0	0
Dr. W. D. Halliburton, F.R.S.	1	0	0
Mr. J. M. Bolton	0	3	0
Mr. W. F. Brock	1	1	0
Dr. Thomas Sheldon ...	0	10	6
Dr. Edwin Smith	0	10	6
Mr. Howard Douglas Stewart	1	1	0
Dr. John Anderson, C.I.E.	1	1	0
Mr. R. F. Tomlin	1	1	0
Mr. G. Spear	0	10	0
Mr. A. Clarke	0	10	6
Mr. W. N. Thompson ...	5	0	0
Mrs. Thomas Cooke ...	0	10	6
Dr. M. Coates	1	1	0
Dr. F. R. Walters	1	1	0
Dr. Louis Colbourne ...	1	1	0
Mr. A. F. Miller	0	2	6
Dr. A. D. Walker	2	2	0
Dr. W. G. Walford... ...	1	0	0
Dr. J. F. J. Sykes, D.Sc.	1	1	0
Dr. W. H. Lamb	1	1	0
Mr. E. J. Spitta	1	1	0
Dr. O. H. Chapman ...	0	5	0
Dr. G. D. Whyte	1	0	0
Mr J. I. Palmer	1	1	0
Mr. J. C. Cook...	1	1	0
Dr. Samuel Lloyd	1	1	0
Dr. A. E. H. Hallen ...	0	10	6
Dr. J. R. Gate	1	1	0
Mr. W. E. Wyllys	1	1	0
Dr. H. Humphreys ...	0	5	0
Dr. T. J. Vallance... ...	1	1	0
Dr. T. A. Carter	1	1	0
Dr. J. P. B. Wills	0	10	6
Dr. T. K. Clarke	0	10	6
E. M. L.	0	10	6
Mr. J. F. Clark	1	1	0
Dr. J. K. Shaw	3	3	0
Dr. W. B. Robertson ...	1	1	0
Dr. F. Bagshaw, M.A. ...	5	5	0
Deputy Surgeon-General H. Cayley, C.M.G. (retired)	1	1	0
Dr. W. S. Playfair, LL.D.	2	2	0
Dr. P. W. Williams ...	1	1	0
Mr. C. C. Mitchinson ...	0	10	0
Mr. Edward Nettleship	1	0	0
Mr. C. Webb	0	5	0
Mr. J. A. Cooksey	2	2	0
Dr. E. Carver, M.A. ...	0	10	0
Mr. A. L. Willcox	1	1	0
R. B. M.	1	1	0
Dr. A. E. Carver	0	5	0
Dr. A. W. Dingley... ...	0	10	6
Captain Jessel, M.P. ...	2	2	0
Mr. G. B. Hicks	1	1	0
Mr. C. L. Batteson	0	10	6
Dr. E. C. Watts	0	5	0
Dr. A. M. Daldy	1	1	0
Mr. Edgcombe Venning	1	1	0
Mr. O. A. Wickham ...	1	1	0
Dr. A. F. Dimmock	0	7	6
Mr. J. W. Draper	0	2	6
Mr. W. H. Date	0	5	0
Mr. R. Crossley	0	5	0
Dr. J. Branson	0	10	6
Mr. James Jackson ...	0	10	6
Dr. S. C. Griffith	1	1	0
Mrs. A. D. Vickery... ...	1	1	0
Mr. F. W. R. Hutchinson, M.A.	4	4	0
Mr. A. H. Dodd	1	1	0
Mr. W. Campbell	0	10	6
Mr. R. Duke	0	10	6
Mr. S. Parsons	0	10	6
Mr. D. Duke	0	10	0
Dr. T. Morton...	1	1	0
Mr. L. A. Bidwell	1	1	0
Dr. S. R. Phillips	1	1	0
Surgeon-Major H. De Tatham (retired), M.D.	3	3	0
Mr. W. F. Roe...	0	5	0
Mr. T. P. Daniell	1	1	0
Dr. T. J. Walker	2	2	0
Dr. J. Walters...	0	10	0
Mr. E. F. D. Brockman	1	1	0
Dr. A. H. Downs	0	10	0
Dr. H. M. Tickell, M.A.	2	2	0
Dr Scanes Spicer	2	2	0
Mr. I. L. Tuckett	1	0	0
Mr. E. G. Cameron ...	0	10	6
Dr. D. Drummond, M.A.	1	0	0
Dr. R. B. Duncan	1	0	0
Mr. W. M. Crowfoot, J.P.	1	1	0
Dr. F. M. Pierce	0	10	6
Mr. J. M. Thorne	0	10	0
Mr. W. Dingley	1	1	0
Dr. J. G. Glover, J.P. ...	2	2	0
G. N.	0	10	6
Dr. James Oliver, F.R.S.E.	2	2	0
Dr. H. Tracey	0	7	6
Dr. G. E. M. Wood ...	0	10	6
Mr. W. J. C. Swift ...	0	10	6
Professor G. Sims Woodhead, M.D., F.R.S.E.	1	1	0
Dr. G. Garlick	0	5	0
Alderman Dr. T. B. Crosby, J.P....	1	1	0
Dr. F. S. Palmer	1	1	0
Mr. J. N. Winter	0	10	6
Mr. R. A. Salmon	0	10	6
Mr. R. J. Wheeler	0	10	6
Dr. James Peacock ...	2	2	0
Dr. T. Trollope	1	1	0
Mr. E. R. Addenbrooke	0	10	0
Mr. T. G. Vawdry	0	10	6
Dr. H. Du Cane	1	1	0
Dr. A. B. Travers Smith	1	1	0
Messrs. Ormrod and Dudgeon	1	1	0
Dr. J. F. Goodhart, LL.D.	5	5	0
Dr. W. Mason	0	10	6
Dr. H. Spencer	1	1	0
Mr. B. Goddard	0	10	6
Dr. J. Matheson, M.A. ...	1	1	0
Professor Clifford Allbutt, F.R.S.	2	2	0
Mr. W. B. Kellock... ...	1	1	0
Dr. G. Wight	1	1	0
Mr. G. Johnson	0	10	0
Mr. J. P. Westrup ...	0	2	6
Total	406	12	0

MYXŒDEMA: A QUESTION OF TREATMENT.

To the Editors of THE LANCET.

SIRS,—Will you or any of your readers kindly give me information upon the following case?

A woman who had been suffering for some time from myxœdema was put on thyroid gland treatment with the result that all the myxœdemal symptoms vanished. But she developed a most distressing urticaria. During last year the thyroid treatment appeared to lose its effect as the old symptoms returned, but the rash completely disappeared. As the patient was becoming rapidly worse I tried a different preparation of thyroid gland. This was followed by very marked improvement in the myxœdemal symptoms, but the rash has returned worse than ever. We have tried numerous local applications and many drugs internally without the slightest improvement. Apparently the rash appears immediately the patient is under the influence of the thyroid gland.

I am, Sirs, yours faithfully,

May 14th, 1902. MYXŒDEMA.

THE R.A.M.C. UNIFORM.

To the Editors of THE LANCET.

SIRS,—Referring to "Surgeon-Captain's" letter in THE LANCET of May 10th, p. 1370, I should be glad to know where he gets his order from respecting the wearing of "Sam Browne" belts by volunteer medical officers.

I am, Sirs, yours faithfully,

May 13th, 1902. SURGEON-LIEUTENANT-COLONEL.

"FILTHY ADVERTISEMENTS."

To the Editors of THE LANCET.

SIRS,—I bespeak your kind hospitality for space to notice the letter of your Canadian correspondent "G. D. B." in THE LANCET of May 3rd, 1902, p. 1294. I am the last man in the world to carp at fair, sharp criticism, but the use of the phrase "some filthy beast" indicates any thing but a judicious mind and one totally unfit to pass judgment on opinions or principles held by an opponent. In my study of political economy I found the cause of much human misery demonstrated and, with Mill, Professor Fawcett, aye, Mrs. Fawcett, I was convinced that early and improvident marriages were a prolific source of poverty, misery, and crime. My daily experience yielded overwhelming evidence of this and I determined to give my views publicity. I knew them to be true, though unpopular, and up to now I have not seen such views successfully answered by logic or reason. The present war has yielded overwhelming proof of my contention in the tremendous percentage of rejections of army recruits in London, Sheffield, and elsewhere. The main object of my treatise is to evoke thought and secure a due

appreciation of the responsibilities of marriage and parentage. Is this in any sense a filthy object? I reply, a thousand times no, but it is laudable and seasonable. Capable thinkers have times and again declared this evil and the reckless unions of mere children need prevention by law infinitely more than newspapers require a curtailment of their liberty. But perhaps "G. B. D." is wroth and furious because I mention a check in my treatise. But, Sirs, there are checks and checks, and the one I give is by a qualified physician. It is perfectly moral, prudent, and healthful, and can in no way lead to wrong actions. Like you, Sirs, I abhor the very word abortion and brand it as wickedness. But checks are not immoral *per se*. At every turn we use them. Where would be the ennobling science of medicine without checks? The charlatan and the mountebank would fatten at the expense of the skilled M.D. But we very properly check them. All I attempt is to check an imprudence among the sexes which, when left to run riot, produces evils so prolific, intense, and lasting as to threaten the vitality and progress of the nation. Herewith I send copy of my little work and am,

Sirs, yours faithfully,

Nottingham, May 19th, 1902. W. J. DOUSE.

THE SOPORIFIC EFFECT OF ONIONS.

To the Editors of THE LANCET.

SIRS,—A gentleman informed me the other day that Pilsener lager beer always had a very drowsy effect upon him which he attributed to the "leeks" used in its manufacture. (The onion-like flavour of this beer, I have understood, was due to the resin used in the casks.) He, however, was positive that it was due to leeks and further said that his brother, a medical man, had told him that the onion tribe contained opium. That onions have a soporific quality is well known but to what is this due? Is it to any compound of the "allyl" series?

I am, Sirs, yours faithfully,

May 5th, 1902. INQUIRER.

*** The notion that lager beer contains onions, garlic, or leeks is absurd and erroneous. The faint garlic-like flavour is natural to lager beer and is due to the fact that it is brewed at a low temperature. The soothing effect of an onion poultice is well known, but this cannot be referred to opium. The soporific effect of German beer is greater than that of small English beer probably because the Germans employ more hops.—ED. L.

FEES FOR INSURANCE EXAMINATIONS.

To the Editors of THE LANCET.

SIRS,—I have the pleasure of handing you herewith copy of a letter received from a medical man employed by one of the provincial managers of my office in reply to the receipt of our usual report form upon which a notice is printed that a 10*s.* 6*d.* fee is payable when the sum assured is below £250. The tone of the communication speaks for itself but I do not wish to infer that in this respect it is representative.

I may call to your notice that already two or three of the leading life offices are now assuring lives for moderate amounts without medical examination, as this ordeal is objected to by the public, and in small business the fee is a heavy initial charge on the premium. Policies for small sums assured form a very large percentage of the total number issued. Under these circumstances a hostile attitude on the part of the medical profession to the receipt of a 10*s.* 6*d.* fee is much to be regretted, as in the course of a few years it will induce the best assurance offices to meet the convenience of the public by abandoning the medical examination altogether and by safeguarding themselves by other means. I inclose my card.

I am, Sirs, yours faithfully,

May 9th, 1902. ACTUARY.

[COPY.]

May 6th, 1902.

DEAR SIR,—Herewith find Mr. ———'s Policy (*sic*) duly filled; I protest against your fee, there is no reason for it whatever; yr Co. suffers by it, as where you cheesepare, Medical men will be quits with you by giving bad lives; and it is most illogical as well, our skill, trouble, knowledge, &c., can't vary because the sum insured is £250—or £249 19*s.* 11½*d.*; but you can get men to do it even less; why don't you take tenders for such cases? you cd get them done for 2*s.* 6*d.* per head. *I now demand* MY FEE of £1 1*s.* Yours truly,

———, M.B.

*** We do not know what time and labour have been required of M.B. in return for 10*s.* 6*d.* by the provincial manager in question, but, as a rule, the labour asked of the medical man is out of all proportion large in regard to the fee. We do not think that the best assurance offices will long remain the best assurance offices if they dispense with medical examination of the applicant for insurance.—ED. L.

THE "Y" FUND.

SURGEON-GENERAL H. S. MUIR begs thankfully to acknowledge additional donations towards the above Fund from Sir George Duffey, Professor A. Ogston, Mr. W. Garton, Dr. L. Hepenstal Ormsby, Dr. G. T. Beatson (Glasgow), Mr. James Taylor (Chester), Major C. R. Johnston, I.M.S., Captain and Mrs. C. E. Grey Stalkartt, Miss Furness, Mrs. Stocker, Dr. and Mrs. J. Dallas Pratt, "A Well-wisher," "A Sympathiser"; Civil Surgeons (attached to the Royal Army Medical Corps) H. Croly, R. Lynch, and G. P. Meldon; Surgeon-General G. J. H. Evatt, A.M.S.; Lieutenant-Colonels W. R. G. Hinds, A.M.S. (retired), J. McGann, A.M.S. (retired), C. White, A.M.S. (retired), J. W. Belcher, A.M.S. (retired), J. G. Williamson, A.M.S. (retired), and W. H. Steele, A.M.S. (retired); Deputy Surgeon-General Kilkelly; and the following officers of the Royal Army Medical Corps: Lieutenant-Colonels R. D. Hodson, H. Grier, N. Alcock, A. Anderson, A. W. P. Inman, H. G. Hathaway, J. Latchford, G. Coutts, G. H. Le Mottée, Surgeon-Major E. J. Hunter, Major D. M. Saunders, Captains L. Way, C. H. Hopkins, and J. Davies, and Lieutenants S. Adye-Curran and F. Boner. The fund now amounts to £175. It may be explained that this is in response to an appeal made privately to members of the profession for benevolent aid in a distressing case which has been described in a letter sent to a limited number of medical men (who would help the cause by kindly "handing on" to *confrères*). Should any reader of THE LANCET desire further particulars with a view to expressing *practical sympathy*, a copy of the letter will be forwarded on application to Surgeon-General Muir, 26, Kensington-gardens-terrace, Hyde Park, London, W.

PROPOSED MEMORIAL TO THE LATE SURGEON-GENERAL W. NASH, A.M.S.

THE following additional subscriptions to this fund have been received:—

	£	s.	d.
Colonel R. Exham, C.M.G.	1	0	0
Major R. J. Fayle, D.S.O.	1	0	0
Captain J. Stuart Gallie	0	10	6
Major H. E. Cree	0	5	0
Major G. Scott	0	5	0
Previously acknowledged in THE LANCET	86	9	6
Total	89	10	0

WANTED—A HOME.

A MEDICAL man writes: "A friend who has retired upon an income of £140 per annum has two insane daughters, the insanity being of a mild type. His own house is small and he would like to have the children treated away from home. He cannot pay more than 8*s.* or 10*s.* per week for each, but he would like to do this and not to send them to a public asylum. Can any reader of THE LANCET give me information privately?"

TO MEDICAL FREEMASONS—A LETTER OF THANKS.

To the Editors of THE LANCET.

SIRS,—May I through the medium of your columns have the pleasure on behalf of my husband and myself of thanking all those medical Freemasons who so kindly and generously came forward to assist in my husband's successful election on Friday last to the Royal Medical Benevolent Institution? Most sincerely do we thank all.

I am, Sirs, yours faithfully,

Bilideston, May 21st, 1902. CLARA SOMERS IVENS.

MEDICAL EVIDENCE IN CORONERS' COURTS.

A COPY of the *Liverpool Echo* of Monday, May 5th, has been sent to us containing an account of an inquest held by the county coroner, Mr. S. Brighouse, at Bootle, on the body of a woman who had died at the Bootle Hospital from the effects of burns. Dr. Dunne, the house surgeon of the hospital, was present at the inquest, but the so-called medical evidence as to the cause of death was given by a nurse who had been summoned by the coroner in preference to the resident medical man. This course the house surgeon protested against, whereby he drew upon himself the rebuke of the coroner. We are entirely on the house surgeon's side. Medical evidence, to be worth anything in a court of law, whether it be a high court or a coroner's court or a county court, must be given by a qualified medical man.

Quandary.—The situation is one that often arises and in country districts a man must decide for himself how he will act. Our general advice is that he should in no circumstances associate himself with an unqualified practitioner as anæsthetist.

B.A. Oxon. (*Bradford*) is thanked for the newspaper cutting. The gentleman's communications to the press are copious and his prejudices are well displayed in all of them.

A.B.C.—The address of the Incorporated Society of Trained Masseuses is 12, Buckingham-street, Strand, W.C.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Evening Post (Jersey), Lancaster Examiner (U.S.A.), Le Courrier d'Aix les-Bains, Wandsworth and Battersea District Times, Lancashire Daily Post, Dorset County Chronicle, Ipswich Times, Yorks Observer, Aberdeen Journal, Aberdeen Free Press (Weekly), Surrey Advertiser, Times of India, Plymouth News, Irish Times, Glasgow Herald, Southport Guardian, East London Observer, St. James's Gazette, Lancashire Post, Suffolk Chronicle, Newcastle Chronicle, Echo, Yorkshire Post, Star, Western Morning News*, &c.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 22nd, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
May 16	29·64	N.W.	0·04	88	58	44	49	53	Cloudy
,, 17	29·47	WNW	0·10	107	60	47	49	53	Cloudy
,, 18	29·38	N.W.	0·20	98	56	46	44	49	Cloudy
,, 19	29·73	N.	0·34	104	56	46	44	48	Cloudy
,, 20	29·93	N.	0·04	78	51	41	42	47	Cloudy
,, 21	30·22	N.	...	107	57	43	44	49	Fine
,, 22	30·29	S.W.	...	76	59	46	48	51	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.).

TUESDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (28th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (29th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.). West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (31st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (26th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Annual Conversazione. Reception by the President. 8.45 P.M. Oration:—Dr. S. Mackenzie: The Powers of Natural Resistance or the Personal Factor in Diseases of Microbic Origin. Exhibition of Drawings of London. Music. Smoking.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Communications:—Mr. J. S. Sewill: A Case of Fractured Tooth.—Mr. K. W. Goadby: Sterilisation of Impression Composition. Paper:—Mr. J. H. Targett: Some Growths about the Jaws.

TUESDAY (27th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. T. J. Tonkin: Some General and Etiological Details concerning Leprosy in the Sudan.—Mr. J. Hutchinson: Leprosy in Natal and Cape Colony.

FRIDAY (30th).—EPIDEMIOLOGICAL SOCIETY (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Meeting.

SATURDAY (31st).—OTOLOGICAL SOCIETY OF THE UNITED KINGDOM (Anatomical Department of the Medical School of Trinity College, Dublin).—11 A.M. Cases, Specimens, and Demonstrations by Dr. Macnaughton-Jones, Prof. Cunningham, Prof. Coffey, Prof. Birmingham, Dr. Dempsey, Prof. U. Pritchard, Mr. A. H. Cheatle, and Dr. J. Horne.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (26th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. F. Payne: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Rickets, its Manifestations and Treatment.

TUESDAY (27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. R. L. Bowles: Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Cole: Mania.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Sir W. Gowers: On Some Spinal Mysteries.

WEDNESDAY (28th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Eccles: Surgical Anatomy.

THURSDAY (29th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Medical Anatomy and Physical Diagnosis.

CHARING-CROSS HOSPITAL.—4 P.M. Mr. Gibbs: Demonstration of Surgical Cases. (Post-Graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Mr. Kellock: Hare Lip and its Treatment.

FRIDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. E. Clarke. Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Reece: Small-pox and Vaccination.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Messrs. Arnold and Sons, Lond.; Mr. W. Alabaster, Lond.

B.—Dr. J. L. Bogle, Bordighera; T. B. Browne, Ltd., Lond.; British Laryngological, Rhinological, and Otological Association, Lond., Hon. Secretary of; Mr. H. Butterfield, Northampton; Dr. James Barr, Liverpool; Messrs. Brown, Gould, and Co., Lond.; Mr. John R. de C. Boscawen, Truro; Messrs. Bates, Hendy, and Co., Lond.

C.—Mr. C. F. Clarke, Plumstead; Dr. W. J. Collins, Lond.; Messrs. J. and A. Churchill, Lond.; County Asylum, Whittingham, Superintendent of; Cheshire County Asylum, Macclesfield, Clerk of; Dr. L. M. Chesney, Lond.; Mr. C. J. Croft, Lond.; Mr. T. J. Cruka, Harrogate; Mr. H. J. Curtis, Lond.; Mr. W. L. Clark, Lond.; Messrs. Samson Clark and Co., Lond.

D.—Dr. Edgar Du Cane, Swindon; Messrs. Doulton and Co., Lond.; Messrs. Down Bros., Lond.; Digestive Food Co., Paisley; Sir Patrick Dun's Hospital, Dublin, Secretary of; Doncaster Corporation, Borough Accountant of; Durham County Asylum, Winterton, Secretary of.

E.—Examination Hall, Lond., Secretary of.

F.—Mr. A. Firth, Sheerness; Dr. Theodore Fisher, Clifton; Friedrichshall Mineral Water Co., Lond.; Dr. A. G. Fauids, Glasgow; Messrs. J. Feeney and Co., Birmingham.

G.—Messrs. Graham and Shepherd, Sunderland; Glasgow Southern Medical Society, Editorial Secretary of; Mr. B. B. Gough, Compton Martin; Guest Hospital, Dudley, Secretary of; Gravesend Hospital, Secretary of; Mr. J. Gregr, Prague.

H.—Dr. C. O. Hawthorne, Lond.; Messrs. J. Haddon and Co., Lond.; Mrs. Hilliard, Alresford; H. G.; Messrs. Hall, Nilsen, and Co., Manchester; Dr. F. A. Hardy, Hove.

I.—Dr. W. A. Illingworth, Leamington Spa.

J.—J. T. T.; J. E. A.

K.—Messrs. R. A. Knight and Co., Lond.

L.—Messrs. Lee and Nightingale, Liverpool; Lond Warming and Ventilating Co., Lond.; Messrs. Longmans, Green and Co., Lond.; Dr. R. Lee. Lond.

M.—Dr. Myra Mackenzie, Menston; Medical Society of Victoria, Melbourne, Hon. Secretary of; Dr. J. E. McDougall, Liverpool; Manchester Medical Agency, Secretary of; Medical Graduates' College, Lond., Secretary of; Messrs. C. Mitchell and Co., Lond.; Dr. W. C. Minchin, Kells, co. Meath; Messrs. Macmillan and Co., Lond.; Mr. E. B. Meyrowitz, New York; *Midland Counties Herald*, Birmingham; Dr. F. C. Madden.

N.—Mr. S. Nockolds, Bradford; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.; Norfolk and Norwich Hospital, Secretary of.

O.—Dr. Walker Overend, Clacton-on-Sea; Otological Society of the United Kingdom, Hon. Secretary of; Dr. W. W. Ord, Salisbury.

P.—Mr. Y. J. Pentland, Edinburgh; Messrs. C. Pool and Co., Lond.; Mr. R. H. D. Pope, Belfast; Mr. H. Palmer, Lond.; Messrs. Parkins and Gotto, Lond.; Messrs. Peacock and Hadley, Lond.; Dr. R. Paramore, Lond.

Q.—Queen Charlotte's Lying-in Hospital, Lond., Secretary of.

R.—Dr. J. Reid, Bristol; Dr. H. H. Roberts, Lexington, Ky., U.S.A.; Messrs. Reynell and Son, Lond.; Dr. M. A. Ruffer, Alexandria; Royal Meteorological Society, Lond., Assistant Secretary of.

S.—Dr. G. C. Savage, Nashville; Messrs. W. B. Saunders and Co., Lond.; Mr. F. W. Sears, Lond.; Messrs. Street and Co., Lond.; Somerset and Bath Asylum, Cotford, Medical Superintendent of; Sanitary Institute, Lond.; Messrs. G. Street and Co., Lond.; Scholastic, Clerical, &c., Association, Lond.; Dr. J. R. Swanton, Bantry; Mrs. Seymour, Oxford; Dr. E. J. Smyth, Bournemouth; Major B. M. Skinner, Lond.; Standard Wine Association, Lond.; Society of Apothecaries of London, Clerk of; Dr. E. J. Sidebotham.

T.—Dr. E. T. M. Tunnicliffe, Lond.; Dr. Seymour Taylor, Lond.; Dr. A. Turner, Plympton.

U.—University College, Bristol, Secretary of.

W.—Mr. C. R. White, Glamorgan; Messrs. W. Wood and Co. New York, U.S.A.; Willings' Advertising Offices, Lond.; Mr. C. Hamilton Whiteford, Plymouth; Dr. D. Wood, Haywards Heath; Mr. White Wallis, Lond.; West London Medico-Chirurgical Society, Lond., Secretary of; Messrs. Watkins and Osmond, Lond.; Mr. S. W. Wilson, Dublin; Wincycle Trading Co., Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Rev. S. S. Adkins, Sevenoaks; A. R.; A. G. J.; A. A.

B.—Mr. P. M. Berkeley, Fleet; Birmingham and Midland Skin Hospital, Secretary of; Messrs. Barton, Hayward, and Ford, Wimbledon; Bethel Hospital for Mental Diseases, Norwich; Brin's Oxygen Co., Lond.; Messrs. Bennett Bros., Salisbury; B.; Messrs. Benson and Co., Lond.; Mrs. Bennett, Lond.; Messrs. J. and H. Bell, Nottingham; B. M. L.

C.—Mr. S. Campbell, Gourock; Mr. F. de B. Collenette, Guernsey; Messrs. Callard and Co., Lond.; College of Preceptors, Lond., Secretary of; Mr. A. H. Cheatle, Lond.

D.—Mr. J. T. Davenport, Lond.; Mr. W. G. Dougherty, New York, U.S.A.; Doncaster Urban District Council, Clerk of; Mr. F. H. Dommisse, Piquetberg, Cape Colony; Doctor, Liverpool; Doncaster Rural District Council, Clerk of; D. D. B.

E.—Messrs. Evans, Lescher, and Webb, Lond.; E. T. T.; E. B. H.; Dr. E. Elsmere, Leamington; E. B. H.

F.—Mr. J. K. Frost, Hereford; Mr. R. Fryer, Cradley Heath; Mr. H. M. Forbes, Cumnestown; Mr. Fox, Monkstown.

G.—Mr. D. K. D. Gaadur, Bombay; G. T. M.; G. F. P.; G. R. B.; General Apothecaries' Co.; Dr. W. Y. Grant, Berwick-on-Tweed; Sir Wm. R. Gowers, Lond.; Messrs. Gale and Co., Lond.; Mr. K. W. Goadby, Wanstead; G. and W.

H.—Dr. A. Holt, Brighton; H. L.; Mr. T. W. Hughes, Liverpool; Mr. T. W. Hunter, Lond.; Mr. G. A. Hawthorne, Coalville; Hanley, Stoke, and Fenton, &c., Joint Hospital Board; H. S.; Mr. J. Heywood, Manchester; Mr. G. Hermanni, jun., Lond.; Dr. L. Harris-Liston, Exeter; Dr. F. S. T. Hutchison, Bedlinog; Mr. E. F. Heap, Keelby.

J.—Mr. J. T. Jones, Llanasa; Mr. C. Johnson, Llantwit Major; J. C. J.; J. H.; J. R. F.; J. H. M.; Jessop Hospital for Women, Sheffield, Secretary of; Mr. F. Jameson, Lond.

K.—Mr. V. Kroenig-Ryan, Lond.; K. M., Lond.; Dr. R. G. Kirton, Lond.; Mr. R. A. Keys, Bagilt.

L.—Mr. H. K. Lewis, Lond.; Locum, Millbrook; Messrs. F. W. Lees and Co., Middleton Junction; London College of Pharmacy, Principal of; L. F. C.; Messrs. Lee and Martin, Birmingham; Mrs. Lamb, Basingstoke.

M.—Mr. R. F. McArdle, Kinlough; Myosin Albumin Meat Extract Co., Lond.; M. D., Upper Tooting; Dr. A. D. Macpherson, Edinburgh; Messrs. Merck and Co., New York, U.S.A.; Medicus, Clapham.

N.—Northern Medical Association, Glasgow; Mr. W. Needes, Lond.

O.—Mr. C. A. P. Osburne, Old Catton; O. R. L.

P.—Dr. H. Poole-Berry, Grantham; Mr. J. Parkinson, jun., Thornton-le-Fylde; Mrs. P.; Mr. J. J. Phelan, Lond.

R.—Mr. E. H. Roberts, Ty Croes; Royal Hospital for Children and Women, Lond., Secretary of; Mr. F. T. Rhodes, Northampton; Miss R., Lond.

S.—Mr. W. C. Steele, Allendale Town; Smedley's Hydropathic Co., Matlock, Secretary of; Southport Infirmary, Secretary of; Surgeon, Chellaston; Messrs. H. C. Scales and Co., Lond.; Mrs. Skinner, sen., Winchelsea; S. G. M.

T.—Mr. J. Townsend, Wimbledon; T. T.

V.—Mr. F. H. Vivian Voss, Rockhampton, Queensland; V. H. G.

W.—Mr. A. O. Way, Amersham; Wallasey Dispensary, Liscard; Secretary of; W. and M.; Dr. W.; Dr. A. Whittome, Dartford; Dr. John Williams, Lond.; W. E. T.; W. A. M.; Messrs. Wackrill and Co., Leamington.

EVERY FRIDAY.

THE LANCET.

PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.